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OLDEST AGRICULTURAL AND LIVE STOCK JOURNAL IN THE MISSISSIPPI VALLEY

Sixty-Seventh Year.

ST. LOUIS, MO., SEPTEMBER 24, 1914.

Volume LXVII. No. 39.



IN THE POULTRY YARD

THE POULTRYMAN'S OPPORTUNITY.

There Is Danger That Good Flocks Will Be Sacrificed on Account of the High Prices of Feed—Eggs and Poultry Are Certain to Be High and Scarce.

There is no reason for good poultrymen to be alarmed because of the present situation which we are facing on account of the European wars or the high price of feeds. The man who has a good laying strain of pure bred poultry is going to get enough eggs this winter to pay his feed and labor bills and net him a nice profit. Neither will the man who has a good strain of pure bred exhibition poultry suffer, because good breeding stock and eggs in 1915 are going to be scarce and high. We believe that eggs will likely be higher this winter than ever before. So the good poultryman need not be alarmed. On the other hand, we believe this is really the poultryman's opportunity. But the fellow who will suffer most is the man who has scrub poultry that has neither been bred for eggs or exhibition.

When times get hard or the price of other food products advance, then it is, as is shown by the past history of the industry, that people turn more to poultry raising than before. Thousands of shop men, clerks, mechanics and laboring men in cities and small towns then turn to poultry as a sideline to help pay the "high cost of living." It is certain to be so again. However, because of this uneasiness, there is great danger of many fine flocks, which it has taken years to breed and perfect, being sacrificed this fall and winter. This war is causing feed to advance in price, but it will also cause eggs, poultry, and practically all other food products to advance in proportion. Poultrymen will be inclined to become frightened at the high cost of grains and sell off their stock so close that their business will be crippled this winter and next season. The price of eggs is going to be high beyond a doubt. The question with you ought to be, "how to get the egg." There will be a great demand next season for eggs and stock for breeding purposes. Our advice is not to decrease your flock in size so that your business will be crippled this winter or next season.

We have harvested the greatest grain crops we have had for years. Beef, mutton and pork are scarce and high, and are rapidly advancing in price and continually getting scarcer. The world must depend upon the United States largely for its food stuffs. One of our own Missouri packing plants has received an order from Canada within the last few days for a million pounds of dressed poultry. Some of this we understand is for export to England. Take courage, my friends, for if I am not mistaken the greatest opportunity that ever offered itself to American poultrymen lies before you within the next two years. It will take these warring nations several years to recover from the effects of the war, even if it should close now.

We don't advise over-doing the thing. We would not keep a lot of surplus males not fit for sale or use as breeders. Don't keep a lot of drones, or dead beats, or a lot of old hens which have outlived their usefulness. Get rid of all dead weight, but do not become unnecessarily alarmed and sacrifice a valuable flock which is almost certain to make you good money before the next season has closed.

The hens in the National Egg Laying Contest at Mountain Grove, Mo., did almost as well in August as they did in July. The 600 hens in the National Contest proper have averaged 149 eggs per hen in nine months, which is five eggs more per hen than they averaged in 12 months last year. The Leghorn section has done nearly as well, but the utility contest has never done as well as it should have done. The hens have been difficult to



keep in condition and they got a poor start at the very beginning.

The total number of eggs for August was 13,909. A Missouri pen of White Leghorns from Marshfield won the honors for the month by laying 220 eggs and also worked its way up to second place. The English pen is still leading all others by 228 eggs for the whole time. This entire pen of 10 hens from England has averaged nearly 200 eggs per hen for the period of nine months. This is better than has been done in any of our previous contests. A pen of Barred Plymouth Rocks from Ohio has made a splendid record so far and was among the 10 highest pens for August and also is among the 10 leading pens for the entire period. Two English pens, two New Zealand pens, and one from Australia were among the 10 highest for August, also White Wyandottes from Pennsylvania and White Plymouth Rocks from Texas. S. C. Reds from Missouri are among the 10 leading pens, but Nebraska has the honor of having the highest individual record. A S. C. White Leghorn laid 218 eggs in nine months. Two Barred Plymouth Rocks, one from Iowa and one from Michigan, have laid over 200 eggs each in nine months.

The best pen record made by the representatives from the various countries is as follows:

S. C. White Leghorns, made best English record, 1964 eggs; S. C. White Leghorns, made best United States record, 1736 eggs; S. C. White Leghorns, made best Missouri record, 1736 eggs; S. C. White Leghorns, made best Vancouver Island record, 1516 eggs; S. C. White Leghorns, made best New Zealand record, 1440 eggs; S. C. White Leghorns, made best Australian record, 1438 eggs; White Wyandottes, made best Canadian record, 1352 eggs; S. C. White Leghorns, made best British Columbian record, 1322 eggs; S. C. White Leghorns, made best South African record, 1143 eggs.

The pens which have made the best records for all times and which stand at the head as the best 10 are as follows:

Pen 0, S. C. W. Leghorns, England, 1964 eggs; pen 65, S. C. W. Leghorns, Missouri, 1736 eggs; pen 79, S. C. W. Leghorns, Pennsylvania, 1722 eggs; pen 47, S. C. Reds, Missouri, 1697 eggs; pen 18, White Wyandottes, Pennsylvania, 1622 eggs; pen 70, S. C. W. Leghorns, Missouri, 1610 eggs; pen 9, S. C. W. Leghorns, Pennsylvania, 1601 eggs; pen 59, Barred Plymouth Rocks, Ohio, 1538 eggs; pen 61, S. C. W. Leghorns, Nebraska, 1521 eggs; pen 24, White Wyandottes, England, 1517 eggs.

Several hundred hens were broody during the month, but in spite of that fact most pens held up very well, and the 10 highest for August were as follows:

Pen 65, S. C. W. Leghorns, Missouri, 220 eggs; pen 75, S. C. W. Leghorns, England, 214 eggs; pen 102, S. C. W. Leghorns, New Zealand, 214 eggs; pen 1, S. C. W. Leghorns, Australia, 201 eggs; pen 59, Barred Plymouth Rocks, Ohio, 196 eggs; pen 79, S. C. W. Leghorns, Pennsylvania, 185 eggs; pen 3, S. C. W. Leghorns, England, 192 eggs; pen 18, White Wyandottes, Pennsylvania, 188 eggs; pen 101, S. C. W. Leghorns, New Zealand, 182 eggs; pen 57, White Plymouth Rocks, Texas, 179 eggs.

The indications are that we will not have any exceptionally high individual records, but the hens are averaging up better than ever before. The hens which have laid over 200 eggs in nine months are as follows:

No. 611, S. C. W. Leghorn, Nebraska, 218; No. 05, S. C. W. Leg-

horn, England, 216; No. 653, S. C. W. Leghorn, Missouri, 213; No. 02, S. C. W. Leghorn, England, 206; No. 656, Barred Plymouth Rock, Iowa, 203; No. 864, Barred Plymouth Rock, Michigan, 201; No. 06, S. C. W. Leghorn, England, 200.

T. E. QUISENBERRY,
Director Missouri State Poultry Experient Station, Mountain Grove, Mo.

MARKED ROADS IN MISSOURI.

All roads lead to Sedalia September 26 to October 3, where Missouri products will be on exhibition at the Missouri State Fair.

Tis but a day's spin by automobile from even the more remote parts of the state, and from anywhere in Central Missouri it is only a few hours' run. Automobile parties will visit Sedalia in great numbers and the roadways for their convenience have been marked and placed in excellent condition.

Entertainment of most any nature desired will be furnished and the homes of Sedalia's hospitable people will be thrown open to accommodate the thousands of state fair visitors who will be accorded every possible comfort and courtesy. The charge is nominal, fixed by the Bureau of Information, having charge of this work.

From figures obtainable in the past three years more permanent road building has been done in Missouri than for 10 years previous. This adds wonderfully to the commercial value of the country through which these highways traverse, and is also a big

factor in the development of the rural districts socially and educationally.

The management of the Missouri State Fair has this year marked telephone and telegraph poles along the principal highways into Sedalia for a radius of many miles. The markings are white bands with red bands underneath, the lower band being about one-half the width of the upper one. These markings are so conspicuous that motorists may travel by them at night as well as day.

These highways connect with such of the principal cross-state highways as the Santa Fe trail, Blue Book routes. Triple Star Trail, Buffalo route, Cannon Ball route, White Way and numerous other well known and heavily traveled roads.

Roads leading to Sedalia from various points are as follows: From Kansas City over the Southern Highway by way of Independence, Lee's Summit, Pleasant Hill and Warrensburg. From Moberly by way of Higbee, Fayette, New Franklin, Bonneville, Bunker and Otterville. From St. Louis over the Southern highway by way of Pacific, Washington, Hermann, Jefferson City, California, Tipton and Otterville. From Springfield by way of Buffalo, Cross Timbers, Warsaw and Lincoln, or by way of Nevada and Clinton.

To Sedalia is an easy route from anywhere in the state, it being centrally located. Automobileists will take advantage of the good roads and make the trip there for at least a part, or all, of the big week of the fair.

Good parking accommodations on the Fair Grounds free of charge, also will be no charge for automobiles at gates.

The board of directors of the Missouri State Fair has extended the fair one day and the fourteenth annual exhibition will be an eight-day fair. The dates are September 26 to October 3.

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CREAM of the DAIRY NEWS

REARING CALVES ON MILK.

It is fortunate that dairy stock of the highest quality can be produced from feeding separated milk, for the fat of milk is too valuable to be used for calf feeding. The calf should be allowed to suckle its dam for two or three days. The friction caused by the licking of its dam's tongue tends to promote both the digestive and circulatory systems. It should be taken away from the cow, early weaning being preferable for both cow and calf. It is important that the calf get the first milk (colostrum), which causes the removal of the pitch-like contents of the intestines and starts the digestive functions, says Indiana Farmer.

When the calf is removed from the cow, a dry, clean box stall is the best place for it, with some straw for bedding. The milk fed from the pail must be warm and fresh; when cold it is apt to cause scours. At first, about three quarts daily will be sufficient, gradually increasing the quantity and feeding in equal proportions at regular intervals each day. This should be continued until the calf is three weeks old, after which separated milk can be gradually substituted, to be added some suitable substitute for the fat removed by the separator.

With regard to the choice of a cream substitute it is evident that such a substance must be pure, rich in fat and readily digestible. The following substances are quite suitable: First, pure flax seed meal; second, a mixture composed of two parts of fine crushed oats, two parts corn meal and one part pure flax seed meal, and third, corn meal, shorts or other grain feeds may also be used. These substitutes should be steeped in boiling water and made into gruel, which can then be fed along with the skim milk, the quantity being gradually increased so long as the bowels remain in a normal condition.

Overcoming Feeding Troubles.

When calves thrive poorly on skim-milk the results are charged to the abuse of that food. Overfeeding, irregularity in feeding, giving milk too cold for digestion, and sour feeding pails are the cause of nine-tenths of the trouble. The injudicious use of skim milk has led many persons to condemn it unreasonably as a food for calves, and in view of the prejudices so created it is most desirable that the composition of separated milk and its proper uses be thoroughly understood. The separator removes the butterfat almost completely from the milk, but all the other constituents found in whole milk are present in undiminished quantity in separated milk.

Although butterfat has a high commercial value as an addition to human diet, it is not the most important food constituent of milk. Of the four substances other than water, one, and only one, can provide the materials for the building up of muscle, blood, skin, hair, hoof and horn, and that substance is not fat, but albuminoids. On account of the important functions performed by albuminoids in the animal body they are often spoken of as flesh formers. Sugar and fat are chiefly concerned in the production of heat and energy, while the minerals supply one of the chief constituents of bone. It should be noted carefully, then, that skim milk, which differs only from whole milk in being deficient in fat, is not the poor substance some people represent it to be.

The constituents mainly concerned in the production of flesh, blood and bone are not removed by the separator, but remain in the skim milk. Fat is the one substance removed. Fat is, fortunately, one of the most easily replaced ingredients of milk. Fortunately, also, it is devoid of natural properties, and when sold in the form of butter it does not rob the soil of any of those substances which make land fertile. Fat, however, is an essential food element for the young calf, or it would not have formed a constituent of milk. It is



well known that several substances may be employed successfully and economically as substitutes for butterfat. None of these substitutes, however, contain fat so easily and completely digestible as the fat in milk and they should not be used until a calf is a month old.

The custom of feeding calves out of a wooden trough is to be deplored. These troughs are very seldom cleansed to destroy disease germs and the products of fermentation. But apart from the danger of disease, this method is most objectionable from another point of view—the quantity of milk cannot be regulated to the age and strength of each calf. The larger and older calves swallow an excessive amount of milk and suffer from the excess, while the smaller and younger calves are deprived of their proper share of the food that is more essential for them than for the older calves. Scrupulous cleanliness of the drinking vessels, careful measurement of the quantity of milk, and punctual feeding, are absolute necessities if success is to follow. If properly looked after the feeder can count on a gain with well-bred calves of from one and a half to two pounds per day for the first four months.

As growth progresses and strength increases, small wisps of sweet hay can be given the calf; these at first it sucks, then nibbles, and finally eats. Crushed oats and bran are excellent feeds, of which the calf will soon eat readily. Many think that because the calf is getting milk that it does not need anything else to drink. But it is surprising the amount of clear water it will drink. It must not be allowed to gorge itself, however. This is worse than too little. It is a good plan to add a little salt to the ration, as all animals are fond of salt and the calf is no exception to this rule. As exercise is very important, the youngster should have the run of a yard or small pasture lot during the day, in addition to a good clean stall at night. Calves and heifers intended for future use in the dairy should be kept in a thrifty condition, but not too fat.

RICHNESS OF CREAM SEPARATED.

One of the most common questions arising among cream producers and handlers of cream is that of how thick cream should be skimmed, when the same is to be used in butter-making.

Cream skimmed so as to test between 35 per cent and 40 per cent is of the most desirable thickness. Thick cream keeps better than thin cream, there is also not the waste in handling a smaller bulk of cream that there is of larger amounts in the way of hauling and express charges, moreover the skim milk is kept on the farm for feeding calves and pigs. If it is too thick there is a loss in some of the cream going over into the skim milk and also a considerable waste from the amount of cream that will adhere to cans and utensils.

A uniform richness of cream may be obtained at each separation.

1. By using the same amount of water or skim milk when flushing the bowl.
2. By keeping the cream screw the same.
3. By running the separator at the same and at a uniform speed.
4. By having the temperature of the milk the same each time.
5. By keeping a uniform inflow to the bowl.
6. By washing the separator thoroughly after using.

Exactly the same butter fat test cannot be expected every time from

the observation of the above, as there are other factors entering affecting results, but a close following of the six named checks on variation will work wonders toward getting a uniform thickness of cream throughout the season.—R. McCann, State Dairy Inspector, Colorado Agricultural College.

AN EXPOSITION OF PURPOSE.

Typifying Present-day Achievements in All Lines—Historical Only For Comparison.

Visitors to the buildings and grounds of the International Dry Farming Congress and Soil Products Exposition to be held in conjunction with the Wichita Exposition, Wichita, Oct. 7-17, are much impressed with the preparations being made for the biggest event ever held in the Southwest. Eight large buildings will contain agricultural and industrial exhibits gathered from all parts of the world—horticultural displays, dairy and live stock exhibits, agricultural machinery and vehicles, silos, etc. Part of a sixteen-acre tract will be used for actual demonstration of all lines of machinery.

Any thought that it will be a sort of "museum of curiosities" must be banished before visiting the exposition. Instead of the usual inert mass of materials and products, there will be working models, manufacturing processes in actual operation together with thousands of feet of moving picture films to continue the story that these working models will begin. An exposition of purpose and education to one and all alike.

Fifteen bands have been engaged. Daily parades of all descriptions are planned. Plenty of amusement features, including the mammoth free production "Barnes' European Hippodrome." On the "Cowpath" will be seen the "World At Home," comprising many new attractions.

PURE-BRED HOG BREEDERS SHOULD VACCINATE.

The question of vaccinating against cholera should be of especial interest to breeders of pure-bred hogs. Where these hogs are offered for sale, with a pedigree, for breeding purposes the man who can advertise his stock as

being immune to cholera has the advantage over his competitors.

If vaccinated by the simultaneous method at the time of disposal, they can safely be guaranteed to withstand any form of infection so far encountered in this state.

In the East and Middle West the leading hog breeders are advertising their stock as being immune to cholera or having been vaccinated.

This should be an advantage to the breeders in so much as it protects his hogs from cholera and also acts as an insurance for the buyer, who would be willing to pay a premium for stock which he knows is insured against death from cholera.—J. H. Coffman, Veterinarian Idaho Hog Cholera Serum Plant.

Much of the falling off in laying toward midsummer might be avoided if more judicious feeding were practiced and really cheap eggs at any season of the year is a condition which we will not have to face again very soon. Eggs sell at the present time for as much as they formerly did in midwinter. It pays to have the hens producing in summer as well as in the winter. Of course, the most money is in winter layers, but summer feeding also has a good deal to do with the number of eggs which the hens will lay during the winter. In view of these facts, it does not pay in the long run to deprive the hens of their regular feed. They will not require as much as they would during the winter, but a smaller feed of the same grains will usually yield a profit.

The best time to do a thing is just a little while before it must be done.

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Cattle

CURING MEAT ON THE FARM.

Useful Recipes for the Economical and Satisfactory Preservation of Beef and Pork.

The best way to eat meat is to eat it while fresh, for there is no way of preserving it that will retain all the nutrition and all the flavor. It is, nevertheless, frequently desirable to cure meat at home, and there is no reason why this can not be done satisfactorily and economically. Salt, sugar or molasses, baking soda, and a little saltpeter are the only ingredients necessary.

Ordinarily the curing of meat should be begun from 24 to 36 hours after the animal is slaughtered. This allows sufficient time for the animal heat to leave the meat entirely, but not sufficient to permit decay to set in. Once the meat is tainted, no amount of preservatives will bring back its proper flavor. On the other hand, if salt is applied too soon, obnoxious gases will be retained and the meat will possess an offensive odor. It is also impossible to obtain good results when the meat is frozen.

Three useful recipes for popular forms of cured meat are given below. The only equipment necessary for them are the ingredients already mentioned and a clean hardwood barrel, or a large stone jar or crock. In considering these recipes it is well to remember that, on the whole, brine-cured meats are best for farm use. They are less trouble to prepare and the brine affords better protection against insects and vermin. A cool, moist cellar is the best place for brine curing. The cellar should be dark and tight enough to prevent flies and vermin.

Recipe for Curing.

Corned Beef.—The pieces commonly used for corning are the plate, rump, cross ribs, and brisket, or, in other words, the cheaper cuts of meat. The loin, ribs, and other fancy cuts are more often used for fresh, and since there is more or less waste of nutrients in corning, this is well. The pieces for corning should be cut into convenient-sized joints, say five or six inches square. It should be the aim to cut them all about the same thickness, so that they will make an even layer in the barrel.

Meat from fat animals makes choicer corned beef than that from poor animals. When the meat is thoroughly cooled it should be corned as soon as possible, as any decay in the meat is likely to spoil the brine during the corning process. Under no circumstances should the meat be brined while it is frozen. Weigh out the meat and allow eight pounds of salt to each 100 pounds; sprinkle a layer of salt one-quarter of an inch in depth over the bottom of the barrel; pack in as closely as possible the cuts of meat, making a layer five or six inches in thickness; then put on a layer of salt, following that with another layer of meat; repeat until the meat and salt have all been packed in the barrel, care being used to reserve salt enough for a good layer over the top. After the package has stood over night add, for every 100 pounds of meat four ounces of saltpeter dissolved in a gallon of tepid water. Three gallons more of water should be sufficient to cover this quantity. In case more or less than 100 pounds of meat is to be corned, make the brine in the proportion given. A loose board cover, weighted down with a heavy stone or piece of iron, should be put on the meat to keep all of it under the brine. In case any should project, rust would start and the brine would spoil in a short time.

It is not necessary to boil the brine except in warm weather. If the meat has been corned during the winter and must be kept into the summer season, it would be well to watch the brine closely during the spring, as it is more likely to spoil at that time than at any other season. If the brine appears to beropy or does not drip freely from the finger when immersed and lifted, it should be turned off and new brine added, after carefully washing the meat. The sugar or molasses in the brine has a tendency to ferment, and unless the

brine is kept in a cool place, there is sometimes trouble from this source. The meat should be kept in the brine 28 to 40 days to secure thorough corning.

Dried Beef.—The round is commonly used for dried beef, the inside of the thigh being considered the choicest piece, as it is slightly more tender than the outside of the round. The round should be cut lengthwise of the grain of the meat in preparing for dried beef, so that the muscle fibers may be cut crosswise when the dried beef is sliced for table use. A tight jar or a cask is necessary for curing. The process is as follows: To each 100 pounds of meat weigh out five pounds of salt, three pounds of granulated sugar, and two ounces of saltpeter; mix thoroughly together. Rub the meat on all surfaces with a third of the mixture and pack it in the jar as tightly as possible. Allow it to remain three days, when it should be removed and rubbed again with another third of the mixture. In repacking put at the bottom the pieces that were on top the first time. Let stand for three days, when they should be removed and rubbed with the remaining third of the mixture and allowed to stand for three days more. The meat is then ready to be removed from the pickle. The liquid forming in the jars should not be re-

RULES FOR RAISING BEEF IN THE SOUTH.

Useful rules for raising beef successfully in the South are given in Farmers' Bulletin 580, by the United States Department of Agriculture, under the title of "Beef Production in the South." After discussing in some detail the available pasture lands and grasses, the bulletin summarizes conditions as follows:

Eradicate the tick on the farm.

Good pastures are essential for profitable beef production.

Plant pasture grasses over the waste lands.

Use pure-bred beef bulls for grading up the native stock.

Always select the best heifers for breeding purposes.

Use the coarse fodder, straws, and the stalk fields for wintering the breeding herd.

Wean the calves when pastures get short. Put them in the corn field and pea fields while weaning and teach them to eat cottonseed cake or cottonseed meal.

Raise and finish beef cattle on the same farm when possible.

A mixture of cottonseed meal, cottonseed hulls, and alfalfa hay is a good ration for fattening calves.

Silage is the best roughage for fat-



A PROMISING YOUNGSTER.

moved, but the meat should be repacked in the liquid each time. After being removed from the pickle the meat should be smoked and hung in a dry attic or near the kitchen fire where the water will evaporate from it. It may be used at any time after smoking, although the longer it hangs in the dry atmosphere the drier it will get. The drier the climate, in general, the more easily meats can be dried. In arid regions good dried meat can be made by exposing it fresh to the air, with protection from flies.

Plain Salt Pork.—Rub each piece of meat with fine common salt and pack closely in a barrel. Let stand over night. The next day weigh out 10 pounds of salt and two ounces of saltpeter to each 100 pounds of meat and dissolve in four gallons of boiling water. Pour this brine over the meat when cold, cover, and weight down to keep it under the brine. Meat will pack best if cut into pieces about six inches square. The pork should be kept in the brine till used.

Sugar-Cured Hams and Bacon.—When the meat is cooled, rub each piece with salt and allow it to drain over night. Then pack it in a barrel with the hams and shoulders in the bottom, using the strips of bacon to fill in between or to put on top. Weigh out for each 100 pounds of meat eight pounds of salt, two pounds of brown sugar, and two ounces of saltpeter. Dissolve all in four gallons of water, and cover the meat with the brine. For summer use it will be safest to boil the brine before using. In that case it should be thoroughly cooled before it is used.

For winter curing it is not necessary to boil the brine. Bacon strips should remain in this brine 4 to 6 weeks; hams six to eight weeks. This is a standard recipe and has given the best of satisfaction. Hams and bacon cured in the spring will keep right through the summer after they are smoked. The meat will be sweet and palatable if it is properly smoked, and the flavor will be good.

taining any class of cattle.

More care is necessary in feeding calves than in feeding grown cattle.

At the present prices corn silage is a cheaper and better feed for fattening beef cattle than cottonseed hulls.

Hulls and cotton seed meal make an excellent feed for a short feeding period, but do not produce good gains on cattle after the third month.

It is not entirely satisfactory to use corn stover as the sole roughage.

When Johnson grass may cost \$10 and hulls \$7 per ton it is more profitable to feed the hulls alone.

Summer feeding on the pasture is usually more profitable than winter feeding.

Finishing cattle early in the summer is usually more profitable than finishing them later in the season.

Fattening steers on grass and cottonseed cake is nearly always more profitable than grazing them without feed.

Thin steers make larger and cheaper daily gains than fleshy ones when put on pasture.

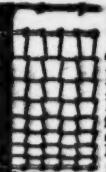
Found for pound cold-pressed cottonseed cake is not equal to the common cottonseed cake.

The use of a small amount of corn in addition to cottonseed cake has proven profitable for feeding steers on grass.

The bulletin, with its 20 pages and nine illustrations, also contains an interesting discussion of the various breeds most serviceable in grading up the native stock. It is sent free on request.

DOCK THE LAMBS.

The docking of lambs' tails is necessary if clean fleece is desired. It need not be a cruel task. Draw up the skin one or two joints and cut off about three inches of the vertebrae. Then the skin returns and heals quickly and completely.



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SHEEP IN WAGONS.

Owners of sheep often have to move some of them in a wagon. The best way is to stretch a rope lengthwise of the box and fasten it firmly. To this tie each sheep by a smaller rope round the neck, having sheep on both sides of the rope.

For fattening lambs, alfalfa is a premier roughage. Silage should not be fed as a lone roughage for fattening lambs; they should have some leguminous hay along with it. A happy combination of roughages would be either silage with alfalfa, or silage with clover.

A combination of preparations, properly manipulated by the skillful feeder, should be more efficient than a single preparation taken through the entire period of lamb-feeding. To illustrate: one can start the lambs on whole ear corn, change to broken and finally finish on a mixture of broken and ground; or he could start on corn and cob meal and finish largely on corn meal. The general aim should be to "keep the feed a mile better than the lambs."

Corn gives better results than any other grain when used for lambs in connection with blue grass pasture. At first only one-third of a pound of shelled corn per head per day should be given, and in two weeks the amount may be increased to two-thirds or three-fourths of a pound per head per day. In about 300 days they should be on full feed, or getting about two pounds of shelled corn per head per day, if the pasture is short. If the feeding period is to be a long one, and the pasture is good, the lambs should receive only half of what they will eat until later in the season, when it is desired to finish and market them.

Weekly Market Report

Cattle Slow; Hogs Off; Good Grades of Cattle Are About Steady—Hogs in Light Demand.

CATTLE—About the only steers of any consequence were some Kansans and native Oklahomas. There was a good demand for them, considering the fact it was Friday, and they got action early. The market was fully steady. The native Oklahomas sold for \$7, while the Kansas steers sold to stock buyers for \$7.40.

Very few good cattle were included in the run of butcher stuff. The market was on a fairly satisfactory basis for a Friday, although there were some weak spots, particularly on medium grade and grass heifers. In places they looked a dime lower, and generally it was the usual Friday dull trade, although the movement was fairly active and a reasonable clearance affected. Some yearling steers and heifers at \$9.10 were top for the day, showing that quality was lacking. Cows reflected no change. Canners and medium grades were in the majority, and, with fair inquiry, moved about steady. No vealers of any consequence arrived, and the market was nominally steady. Aside from the Kansas steers a load of feeders at \$7.25 and some odds and ends were about the only propositions in the stocker and feeder division. A good clearance was effected.

The quarantine estimate called for 44 cars. While there was a good showing of Oklahoma steers available, canner territory was again well represented. There was a fair demand for the Oklahoma steers, considering the lateness of the week, and they got action at a seasonal hour. There was no change in prices, bulk of the steers selling steady.

Canners and she stuff reflected no change. While the supply was good, inquiry was also of fair volume, and no complaint was offered by sellers about prices, bulk of sales being steady. There was a good clearance of quarantine cattle.

HOGS—There was but a moderate supply. The trade opened with a right good demand from shippers and city butchers for the strictly good grade hogs that were not too heavy, and those above 200 were beginning to be too heavy. The market was active for those the shippers and butchers wanted.

Packers were not at all concerned about the early trade and did not get in until rather late in the day. Hogs above 200 pounds were not any better than steady at any time and the general trade was 10@15c lower by noon. The range of prices is the widest in a good long time on account of the light stuff advancing while the heavy kinds have been declining.

Three loads of light hogs went at \$9.40, which represented the top of the market, while the bulk of all the hogs offered sold at \$8.90@9.30. Some of the hogs at the top of the market weighed but around 150 pounds and the heaviest lot weighed but 198 pounds. Some pigs weighing around 100 pounds sold at high as \$9.

Quite a lot of heavy hogs—that is, well up towards 300 pounds and over—went at \$8@8.50, and it took pretty good hogs much over 200 pounds to reach \$9 or more. Packers were hard to deal with, and shippers did not want

the heavy hogs at any price. Some common pigs and lights went at \$7@8 and fair kinds at \$8@8.65, with the good ones higher.

There were some hogs carried over, as sellers did not like to accept prices around 15c under what similar hogs brought at the opening of the day. The bulk of the hogs sold much better than the bulk brought on any of the other western markets.

SHEEP—No material change to the trade, so far as sheep were concerned, but lambs suffered a loss of 25c from the high time on Friday. However, they are still 75c higher than at the close of last week and in extra good demand. Sheep show a gain for the week of 50c and are also finding ready sale, as the demand has exceeded the supply all week.

Good lambs sold largely at \$8.75, against a top Thursday of \$9.05 and \$8.10 on last Friday, while the plainer grades went at \$7.35@7.65 and the culls and common kinds at \$6@7.25. The lambs sold with a very light sort, as buyers were anxious for all they could get. The heavy runs at other markets were responsible for the decline here.

Again the mutton sheep practically all sold at \$5.50 and breeding ewes at \$5.75@5.85, while choppers and good stockers went at \$4.25@5.00, fair kind of stockers at \$3.50@4.00 and the old cull and common sheep in general at \$2.50@3.25 and bucks at \$4@4.50.

HORSES—The market opened on a steady basis, with a fair call for all the good quality, Eastern chunks and drafters, but these animals when selling at their best do not bring prices high enough to warrant shippers buying their material high in the country. In fact, it was said by authorities that prices this week on all classes are lower than they have been in the past ten years.

MULES—A few good big mules and miners of extra good quality sold all right this week, but on an average the trade was slow and draggy throughout. There was no demand from the South for mules and this trade was poor, as it has been in the last few weeks—in fact, all season.

TRACTORS VS. HORSE POWER ON FARMS.

The American farmers who contemplate purchasing tractors for general use in farm operations will do well to consider thoughtfully the experience of Canadian farmers, who have made most extensive use of tractors of any farms in the world.

Reasons for the general use of tractors in Sask., Alberta and Manitoba were:

1. Large areas of prairie sod purchased at low prices, and of such character as to render feasible operation of from 500 to 2,000 acres per field.

2. High prices of horses and refusal of horse owners to sell unless substantial cash payment were made.

3. Willingness of tractor companies to sell complete outfits, costing from \$4,000 to \$10,000, on very small initial payments, and long time notes, most of them running for three years.

4. Knowledge that such outfits had been known to break from 20 to 30 acres of sod per day when handled by experts.

5. Lack of knowledge as to depreciation and cost of operation of such engine outfits, especially in comparison with the cost of horse operations.

The result was the purchase of thousands of tractors in the Canadian Northwest. They have now been used from two to five years, and the Canadian farmers, business men, and bankers have had experience enough to know their advantages and disadvantages. The net result is an overwhelming decision against such outfits for general farm work. A few have been successful with tractors, but even these can not show return that will indicate any advantage over horse power.

Briefly stated, Dominion farmers have found that it costs more to plow, disk, seed or harvest, with tractor, than with horses, when interest on investment and depreciation in value are properly figured in. The writer in July, 1914 made an extended trip through northwestern Canada, and secured detailed cost figures from many farmers. To give all, is out of the

question in this article, but the detailed data supplied by Mr. Charles Esterbrook of Alberta is given for illustration:

Daily Cost Figures on Tractor Plowing Gas Engine—45 H. P.—25 H. P. on Drawbar Plowing Strip Ten Feet Wide.

Cost of engine and plows, \$3,990; interest on same, 7 per cent, \$279.30 per year, or on 313 working days, per day, 88c; depreciation, 25 per cent on total \$3,990 or \$997.50 per year, or \$3.19 per day; gasoline, 45 gallons per day 33 1/3¢, delivered at farm, per day, \$15; cylinder oil, 3 gals., at 80c per gal., \$2.40; gear oil, 1 gal. per day, at 30c per gal., 30c; hard oil and transmission grease, estimate, per day, 10c; engineer per day, \$5; competent plowman, per day, \$3.50; board of same two men at 50c each per day, \$1; total, \$31.37. Average plowed per day, 20 acres, or average cost per acre of \$1.57.

In the preceding we did not figure in the cost of sharpening plows as he uses disk plows, sharpens but once a season at 50c per disk, or \$7 per season for 14 disks.

Mr. Esterbrook had not figured his horse plowing cost, but on request gave the following actual cost figures.

Daily Cost Figures on Horse Plowing Gang Plow—Two 12-Inch Plows— Six Horses Worked Together.

Cost of gang plow, 2 12-inch plows and two extra shares, \$90; interest on same at 7 per cent per year, or on 313 days, 2c per day; depreciation, 10 per cent per year; repairs, 5 per cent, total

\$13.50 per year or 4c per day; value of six horses used on gang, \$150 per pair, or \$450 for the six small horses; interest on same at 7 per cent, \$31.50 per year, or 10c per day; depreciation nil—increase in value of young animals being broken, and produce from mares offsetting loss and depreciation; cost of man at \$40 per month, per day, \$1.53; board of man per day, 50c; feed of six horses, each 18 qts. of oats per day at 32c per bu., for six, \$1.98; each 21 lbs. of hay per day at 7 per ton for six, 57c; harness, three sets at \$40 per set, \$120; interest on same at 7 per cent, \$8.40 per year, or per day, .268c; depreciation on harness, 10 per cent per year; repairs, 5 per cent; total, 15 per cent, or \$18 per year, per day, 57c; sharpening plow points, estimated at 30c per day each gang; total, \$4.16; average plowed per day, five acres; cost per acre, 83c.

Mr. Esterbrook in commenting on the matter remarked that he himself had not previously recognized how great the difference was, and added that his chief purpose in buying the tractor was to have his own threshing outfit, as he had found it difficult to have this work done in time to escape snowfall. He added that he had been planning to decrease the field work done with the tractor, holding it principally for other work.

Other farmers who gave detailed cost figures confirmed in substance the data given by Esterbrook. All were agreed in declaring that 20 acres was the maximum acreage plowed per day.

(Continued on Page 12.)

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Horticulture

THE APPLE.

Of all the fruit beneath the sun,
The apple sure is in the lead,
So staple has this fruit become,
The apple's "monarch" sure indeed.
When other fruits have passed away
The apple still its part will play;
There's a million barrels stored they
say.

And, oh, how much that fruit we
need.

In so many ways the apple's used,
It's worth, no fruit, could e'er surpass;
'Twill keep a year if never bruised,
And it is loved by the mass.
Their colors bright do please the eyes,
Its taste will make the spirits rise,
And, oh, the lovely apple pies!
And who gets tired of apple sass?

St. Louis, ALBERT E. VASSAR.

SOW WHEAT LATE AND ESCAPE THE FLY.

By L. Haseman.

With the arrival of the recent rains, preparations are being made, in some sections of the state, for wheat sowing and there is the danger that some will sow too early. With the enormous Hessian fly injury on the next crop of wheat, farmers can well afford to take every possible precaution to prevent it. The following suggestions are offered by the Missouri Agricultural College as a partial solution of the problem.

The majority of the Hessian flies are still in the resting or flax-seed stage in the wheat stubble which has not been destroyed by plowing under or burning. From this stubble the winged fly will soon come out to deposit eggs on volunteer or early sown wheat. Where the stubble has all been plowed under and the ground thoroughly worked over in an entire community, there should be less danger from the fly, but the wheat should be sown late even where such measures have been taken. Where the stubble has not yet been destroyed it should be plowed under at once and the ground worked. Keep down all wheat plants until it is time for the regular crop to come on. In the northern part of the state wheat sown about the first of October will escape most of the fly injury in the fall and in the southern part wheat sown about the middle of October is usually free from fall injury of fly. In sections where the fly was present this year, farmers will do well to delay the sowing of wheat until late, meanwhile continuing cultivation so as to make the best possible seed bed.

GARDEN WEB-WORM DESTROYS ALFALFA.

By L. Haseman.

For the past few weeks the Missouri College of Agriculture has been receiving reports of a small greenish caterpillar with black spots, which has been destroying the alfalfa crops. This little caterpillar is one of the so-called web-worms and in earlier days it was called the "garden web worm" on account of its injury to truck crops. On maturing it spins a small cocoon from which emerges a small yellowish brown moth. In this latitude there seems to be three broods during the summer and fall. The last brood of worms is due to appear soon if it has not already arrived.

Several native weeds, including the common pig-weed, garden crops, clover and alfalfa, all furnish food for this caterpillar. In earlier years it has been injurious to clover in Missouri, but this is the first year it has done much injury to considerable amount of silk for tying together the leaves and stems. When abundant, it leaves but little foliage on the plants and what little is left is badly webbed. The crop is not likely to be killed unless the attack be unusually severe or unless it occurs during a severe drought.

The only feasible method of reaching the pest is to cut the crop when badly attacked, even though it may not be ready to cut. This will help to check the work of the pest and if the alfalfa be cut at the right time when

most of the caterpillars are enclosed in cocoons, they will be removed from the field with the hay and few of the moths will get back to lay eggs for the next brood of worms. Clean culture so as to keep down all pig-weeds and other plants on which they feed in or near alfalfa fields will help to prevent the pest from getting a start in alfalfa.

PEAR BLIGHT.

The pear blight has been quite prevalent on the western slope this summer and a few pear growers have lost considerable, both in the destruction of trees and fruit.

The season of active spread of the disease is past and the fruit growers' efforts should now be directed toward the cleaning up process. Trees should be carefully gone over and all diseased twigs and branches should be cut off and burned. The cuts should be made a few inches below the seat of the disease and a knife or tool used in the cutting should be disinfected by dipping it into a solution of corrosive sublimate, one part to 1,000 of water. The ground under the trees should be carefully searched for mummified fruits or fruits that were infested with the blight and dropped to the ground. The trunk of the trees should also be examined and all places showing a depression with an area of dry or dead wood and bark should be scraped clean and cut out until the live wood is reached; afterwards carefully painting over the surface with a solution of copper sulphate, one pound of copper sulphate to two gallons of water.

The mummified fruits and the cancer or dead patches on the body of the tree and in the crotches of the branches are hold-over places for the blight and from which the disease starts in the spring. All portions removed from trees including fruit mummies should be carefully gathered and burned.—E. P. Sandsten, Colorado Agricultural College.

The experimental orchard of apple trees at the Pennsylvania State College which was started seven years ago shows that a liberal mulch of any suitable organic matter conserves moisture more perfectly than the most thorough tillage, and consequently the tree growth is more rapid with the mulching system. There is a marked difference between the trees which are mulched every year with straw and those which are standing in cultivated ground. Trees which have been mulched with alfalfa grown around them have also made a most excellent growth. These experiments confirm the ideas which have been advanced from time to time in this department relating to the desirability of mulching such vegetables as celery, tomatoes and asparagus.

When there is good reason for believing that the cabbage will soon begin bursting, such a catastrophe can be prevented inexpensively and without serious loss of time. Simply go through the patch with a spade, shoveling it down beside each mature plant and breaking the tap root by prying gently on the spade handle. This precaution will check the growth of the plant and save a crop in many cases. In taking care of a big field of cabbage, the easiest way to check the development of the heads is to walk through the field and push the plants over to one side with the foot. This method also breaks the roots loose from their moorings and precludes possible loss.

Many fruit growers prefer to disk their orchards in spring instead of plowing and use, on that account some cover crop which dies out with the frost in the fall. Such crops are usually classed as catch crops instead of plowing and use, on that account some cover crop which dies out with the frost in fall. Such crops are usually classed as catch crops instead of cover crops, to distinguish them from those which live through the winter. Oats, buckwheat, spring vetch, Canadian field peas, are good for this purpose. Oats and buckwheat are the most common in use. A combination of oats and field peas is very good for catch crop purposes. The use of catch crops is not advisable in soils which do not have plenty of humus, as those crops do not furnish very much vegetable to turn under.

The Apiary

HOW TO START IN BEE-KEEPING.

The first thing in bee-keeping is to get some bees. I wouldn't advise any one to send a thousand miles for them even if they were to cost nothing but the freight. If one gets interested in the subject and makes inquiry there is hardly a neighborhood in which he cannot find them. Oftentimes bees are sold at farm auctions for almost nothing, because the average farmer who attends these sales is afraid of them. There is no reason to be, of course. Bees don't go out of their way to sting any more than cows go out of their way to hook somebody. Indeed not so likely to, for cows learn to know their keeper and strangers are not welcome. Bees don't know one person from another, and if they sting one sooner than another it's because people don't all act alike when they approach a beehive. Bees judge people by their actions just as we do. You'll learn all these things by experience, and in the learning you'll see that it pays to be gentle and patient and calm.

Having bought or made arrangements to buy a colony or two, another important thing is a book on the subject. Life is too short for every person to learn by slow experience all that he may want to know or ought to know. There are shorter cuts to knowledge than by the weary toll of digging it out alone and unaided. Huber and Langstroth and others who were pioneers in this art spent months and years in patient study and observation, in order to make it easier for us to know what to do and the why of it.

Adopt the standard style of hive. You'll find that the manufacturers of bee supplies make things cheaper if they conform to the hive most generally in use. Hives, sections, supers, etc., are fast becoming uniform. Such goods are obtainable on short notice and every consideration of economy and comfort is in favor of uniformity. The Langstroth frame is now generally used.

A smoker is one of the utensils you can't afford to do without. It gives one confidence at all times and there are times when it is foolhardy to try to handle bees without it.

The beginner might use a veil also for the same reason, but he'll dispense with that when he gets accustomed to handling bees. It's a nice thing to have for company, though. If your visitor isn't a bee-keeper, a veil will give confidence and help her to be quiet.

I wouldn't advise a beginner to buy many colonies to start with. He can easily get increase as fast as he will get experience. There are many little things he will have to learn that way, and it's better that study and practice and increase go together. If you were just starting in the drygoods business it would not be wise to buy out

Marshall Field to begin with.

The best time of year to buy bees is in the spring or early summer unless one could buy them so cheaply in the fall that he could afford to take the risk of wintering. There is always more or less loss in winter and if one knows nothing of their condition in the fall, and has had no experience in wintering one must expect some loss. If one could get advice from an old bee-keeper both as to condition and how best to winter it might save loss. Don't be afraid to ask advice of those who have had more experience than you have. A good neighbor is a good thing to have, and he will not deceive you knowingly.—Successful Farming.

HOW TO IMPROVE LAMB CROP.

Lambs should be weaned when from four to four and one-half months old. So says Frank Kleinheinz, shepherd of the University of Wisconsin flocks in answer to numerous inquiries upon this subject.

Many flockmasters allow the lambs to run with their mothers until breeding time. This, Mr. Kleinheinz regards as very objectionable for it annoys the ewes and keeps them in poor condition. Moreover, at this time the lambs get but little milk and they will really do better without it.

When taken from their mothers, the lambs should be put on a piece of fresh pasture, which will help to avoid much of the stomach worm trouble.

After weaning time the ewes should be put on a scant pasture for about a week in order to dry them up quickly. During this period they should be milked a few times to prevent the udder from caking and as soon as they are fairly dry they ought to be placed on good pasture again, where they will put on flesh and become strong and vigorous before they are bred in the fall.

Early weaning and good care of the ewes after the lambs are taken away enables the ewes to go into winter quarters in good condition, thus aiding winter feeding and insuring a large crop of strong lambs in the spring.

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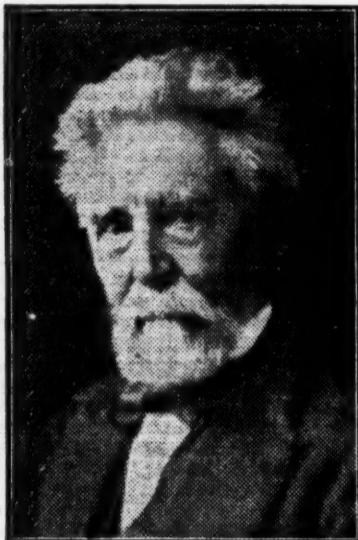
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A. B. CUTTING, Editor.



Norman J. Colman,
First U. S. Secretary of Agriculture.

COLMAN'S RURAL WORLD was established in 1888 by Norman J. Colman, who later became the first United States Secretary of Agriculture. As a clarion of advanced agriculture this journal has attracted nation-wide support, and is today held in highest regard by thousands of intelligent and discriminating readers.

COLMAN'S RURAL WORLD strives to bring the greatest good to the greatest number at all times. Each issue is replete with helpfulness and good cheer. It is read for profit and pleasure, and yields a satisfactory return to each individual subscriber. Our advertisers are rewarded with excellent results.

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Every day the frightful devastation of war goes on shows this great country in a more favorable light.

Co-operation by farmers is recognized as a necessity by all thinking men, and the constant organization of farmers all over the country augurs well for the future prosperity of our producers.

Gather a few handfuls of wheat, oats, barley, and other grains and dry them carefully to use in making a centerpiece for the Thanksgiving dinner table, and for decorations for other harvest festivals.

The Yerkes telescope has an aperture of 40 inches and its focal length is 62 feet. In the two years that it has been in service much work has been done with it which astronomers would appreciate, but no particularly startling discovery, such as appeals to the general public has yet been credited to it.

Manure stacked in a tight pit of concrete, masonry or wood will not deteriorate very quickly, if it is kept covered so the rain and snow may not reach it. The more compact it is, the better its strength will be preserved. However, it belongs on the fields, and the quicker it is spread there, the more certain it is to help the growing of next year's crop.

CUT SILAGE CORN AT THE RIGHT TIME.

There is a tendency among many farmers to cut corn for silage before the corn is sufficiently mature. Corn is at its best for silage when the kernels are well dented and the upper leaves of the stalk are still green. Sometimes, on account of drought, most of the lower leaves will be dry before the grains have dented. In such cases it is much better to allow the kernels to mature sufficiently than to cut the corn too soon. It is necessary that the silage be moist enough to pack well in the silo, and, if the corn stalks and leaves are rather dry when the kernels are properly matured for silage making the corn should be wet before it is run through the silage cutter. It is true the silage may be more palatable if the corn is cut while the stalks and leaves are green, but the feeding value of the silage may be increased from 10 to 20 per cent by allowing the corn to stand in the field one week.

GEMS OF THOUGHT.

Pain borne outside the presence of God, not as his gift, not with His sympathy, is hardening. Pain borne in His love and with His help is the soul's salvation. How great the difference is when that line is crossed.—Phillips Brooks.

Ought any, then, to refuse their aid in doing what the good of the whole demands?—Lincoln.

Life is not jest and amusement; life is not even enjoyment—Life is hard labor.—Turgenieff.

Don't put too fine a point on your wit for fear it should get blunted.—Cervantes.

We are in the spiritual and eternal world; there is no other in which we can be, for there is no other. Never be afraid of giving up your best, and God will give you His better. Not this everlasting getting; deny yourself and give and infinitely more shall be yours; but give, not bargaining; give from love, because you must.—James Hinton.

There is something in the human soul that loves to bear, to endure, to suffer—that goes forth to meet the realities of pain. I believe it is an instinct of the soul that in this way it shall come, somehow, to know itself. We do not want to be cheated out of anything that earth has to offer. If heaven could be offered to us prematurely, there is something within us that would put it by.—E. T. Clapp.

WHAT ONE TYPHOID CARRIER DID.

In the fall of 1910 Mr. A. moved from Minnesota to the town of G., Wisconsin, bringing with him his wife and three boys. He bought a farm four miles northeast of the village. Six months before moving to Wisconsin, Mr. A. had typhoid fever. About the time of moving to Wisconsin the eldest son had typhoid fever, and soon after the two other sons and their mother came down with the disease.

Mr. B. with his family, consisting of his wife, two boys and a girl, moved from Minnesota to Wisconsin about the same time, having purchased a farm in the immediate neighborhood of Mr. A. While the buildings on this place were being put in order Mr. B.'s family stayed at the home of Mr. A., with the apparent result that first the daughter and soon after Mr. B. and the two sons came down with typhoid fever.

In the fall of 1911 Miss C., a niece of Mr. A., came from St. Paul to teach in the public schools. She was in the habit of spending the week-end at the home of Mr. A. After six weeks' residence in the town of G. she became ill with typhoid fever.

At the same time a sister of Mr. A. visited him and soon after returned to her home suffering from typhoid fever also.

About Aug. 15, 1911, Mr. D. visited at the home of Mr. A. and took supper with him. September 20 Mr. D. entered a hospital after having been sick for some days, and a diagnosis of typhoid fever was made. His illness began during the first week of September.

In the spring of 1912 two young

men, E. and F., who were working at the home of Mr. A., both contracted typhoid fever.

In the fall of the same year Mrs. G., a sister of Mrs. A., accompanied by her son, spent a few weeks at the home of Mr. A. Soon after returning home both contracted typhoid fever.

In the latter part of 1912 or January, 1913, Mr. H., a brother of E., spent a night at the home of Mr. A., and 12 days afterward came down with typhoid fever.

In June, 1913, Miss I., a niece of Mr. A., living near him, suffered from typhoid fever. There had been frequent visiting between the two families.

On or about Oct. 15, 1913, Mr. J. took the Reverend K., his wife and two children to the home of Mr. A. for a visit. They did not take a meal at the house, but the children became hungry and cookies were handed. October 28, the Reverend K. bought butter from Mr. A. for table use, and on November 2 Mr. A. and family dined at the home of the Reverend K. On November 11 the two children of the Reverend K. became ill with typhoid fever, and on November 30 Mrs. K. and her husband also went down with the disease, Mrs. K. dying.

It thus appears that 21 cases of typhoid fever occurred among persons in this community, or those who had visited there, and all of them had been in contact for longer or shorter periods of time with Mr. A. Microscopic examination showed Mr. A. to be a "typhoid carrier."

LARGE CITIES AS HEALTH RESORTS.

"Were I a physician, I could prescribe nothing but—" Recipe: ccclxv drach. London, per annum" (365 doses of London a year). Thus wrote a noted Londoner, Horace Walpole. "If a few days in London does your neurasthenic patient no good, his case may well be helpless and hopeless." These, the words of Dr. Clippingdale addressing the balneologic and climatologic section of the Royal Society of Medicine a few weeks ago on London as a health resort and as a sanitary city. Those who are accustomed to go to the mountains, the fashionable spa, the seashore or the "health resort" may ask whether this is merely subtle humor or ill-concealed sarcasm at the expense of what has been called "the healthiest, and with the exception of Madrid, the ugliest city in the world." Or are physicians unduly oblivious of the suitability of a large city for certain maladies, chiefly of a psychopathic or neuropathic nature, asks The Journal of the American Medical Association?

There are not a few persons who have a dread of open spaces, for example, the country. It is to such that a very large city, on account of its size and the almost infinite number of diversions it permits, appeals most remarkably. The London life is to such persons the material on which they live. There are persons who prefer looking on men and artificial things. The loneliness of the woods and green fields appalls them. Many a patient sent to the monotony of the sea-shore to recuperate finds his first real joy and comfort in the return to the motley throng of some great city. In this spirit Charles Lamb once wrote: "I am naturally inclined to hypochondria; but in London it vanishes, as do other ills. The man must have a rare receipt for melancholy who can feel dull in Fleet Street."

Despite the numerous epithets of antipathy which have been recorded against the great English metropolis, despite the alleged lack of esthetic attributes, Clippingdale stoutly defends its suitability for persons suffering from certain nervous disorders; cases of simple digression from the normal; cases of hypochondria, melancholia, insomnia and neuralgia of nonorganic origin, the drug and alcoholic habits and morbid introspection; cases, in fact, requiring the very opposite of a "rest-cure." He insists that many means for rational psychotherapy are provided by the diversions of a great city. "Its historic, artistic and literary associations," writes Clippingdale, "its many picture galleries and museums, its numerous places of amusement,

the business activity, the Attic regions of Belgravia and the Alsatian retreats of the East End all combine to produce a state of exhilaration not met with elsewhere. In fact, it has been jocosely remarked that if Londoners themselves fell into a state of lethargy nothing would arouse them from it unless it were two parliamentary elections in one year, together with an earthquake in the Strand." There is, of course, an underlying germ of truth in all of this. Not every man can be rescued from depression by the soothing environment of a sanatorium or the joys of the outdoor life. The heart of the city is like balm to a persistent minority.

As for London itself, the annual exodus therefrom is a "comparatively modern invention." Speaking from statistical comparison of the general mortality, it is a healthy city. Its natural advantages are enhanced by the large number of open spaces in its midst. If the climate is nothing to boast of, it must be remembered that "fog is not an atmosphere of poisonous microbes." After all, the question of liveableness in any environment is, as a rule, one of the temperament and adaptability of the individual. Americans have braved the dreaded tropics with comparative comfort and remained in perfect health. Manila and Panama have lost the terrors of climate, while the far North has become the field of pleasure-seekers. The healthfulness of an environment, urban or suburban, inland or coastwise, has become almost entirely a question of personal hygiene and mental satisfaction coupled with the indispensable accompaniments of public sanitation.

SUCCESS WITH POULTRY.

Success with poultry probably depends more on the man or woman in the business than on the breed of chickens. When a man lays down a set of rules that benefit his customers and then follows them we see one evidence of square dealing and ultimate success, says Indiana Farmer.

Burt Sisson always makes an allowance in shipping eggs for hatching and breeding and exhibition stock. His aim is for better birds and he prefers to have his business grow gradually and turn away an occasional order than to supply a customer with an inferior product and run a chance of dissatisfaction.

For a number of years this man Sisson has given a great deal of time and attention to the breeding and rearing of high-grade poultry. He has had experience with seven different varieties and has kept as many as four in his yards at one time for experimental purposes. He soon found that many different yards and separate apartments required too much time and money and that it was a decided advantage to confine himself to one variety.

With this end in view he began to keep records in order that he might learn which of the several varieties on hand might bring him best returns. As a result of careful investigation covering a period of several years he decided on Rose Comb Rhode Island Reds because he found them to lay younger and to keep it up better through both extreme winter and summer weather. He expects to devote the remainder of his life to improving this breed.

Prefers Small Flock Well Cared For.

Sisson is a firm believer that poultry breeders frequently make the mistake of keeping too many varieties or too many birds of one variety. A small flock when well cared for will bring greater returns than a large flock with less care. In general, quality is to be preferred to quantity. This same principle holds good when applied to the rearing of young stock. One should not attempt to raise more than can be properly housed and thoroughly cared for.

Colony and brood coops should have ample ventilation and should be kept clean. They should be thoroughly disinfected often. On Sisson's poultry farm additional precaution is taken in the warm summer months by applying a special preparation to the perches, nests, etc. This consists of lard, kerosene oil and crude carbolic acid. It will be found that a mixture of one gallon of lard, one quart of kerosene oil and one ounce of crude

carbolic sufficient entire applied the minute facets preparatory chicks to

A con late hat in small hot dry some ele chicks n nature w given the N. Fort coop to away w and acce alfaid a cool stre begin to de

In this tioned th factor in growing than free corn. The soft earl morning through and work abundance ter appet sour mil age or ol weather vessels o not easi plan to h water to ing in car into the Sison coops wh hen each to give t range and change is. Rememb growing red than which yo customers You can stock tha guarantee It is suc as we hav Burt thus it i with th

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XUM

carbolic acid will make a preparation sufficient in quantity to suffice for an entire season. This preparation is applied with a brush and seems to get the mites that escape ordinary disinfectants which are sprayed. The preparation here mentioned is first-class to apply on the heads of young chicks to rid them of head lice.

Handling Young Chicks.

A constant vigilance at this time of the year is necessary to insure the best possible development of the young stock. In some cases one will find the young chicks not doing well and still fail to locate the suspected cause. In such cases a change of procedure is desirable and it remains for the wisdom of the management to decide what change will remedy the difficulty.

Last season Mr. Sisson had some late hatches that were not doing well in small yards, perhaps due to the hot dry weather and the absence of some element of food which the chicks needed and which he figured nature would supply them were they given their liberty to go in search for it. Forthwith he removed the brood coop to a pasture lot about 60 rods away which gave them free range and access to a newly seeded field of alfalfa and June clover as well as a cool stream of spring water. With this environment they immediately began to thrive and Sisson was able to develop them into January layers.

Free Range Essential.

In this connection it should be mentioned that free range is an important factor in success with poultry. Young growing stock like nothing better than free range in a field of growing corn. They like to dig in the cool soft earth. They will often leave the morning meal and scamper off through the corn in search of bugs and worms which they find there in abundance, returning later with better appetites for grain. A quantity of sour milk for chicks two months of age or older is excellent. In summer weather use small earthen drinking vessels or crocks as the chicks cannot easily upset them. It is a good plan to have a block or stone in the water to alleviate the risk of drowning in case a little chick should fall into the drinking vessel.

Sisson has a number of portable coops which accommodate from 30 to 50 hens each that he uses in the summer to give the hens a vacation on free range and he finds that the complete change is very beneficial.

Remember that a satisfactory and growing business is more to be desired than an overgrown business in which you cannot guarantee to your customers quality as represented. You can afford to ship on approval stock that is worth \$5 or more and to guarantee fertility in hatching eggs. It is such commendable procedure as we have outlined here that is putting Burt Sisson in the front rank and thus it is that success is attained with thorough-bred poultry.

Exhaustive inquiry has established the fact that lightning ranks next to railroads as a source of forest fires. Forest officers say that the increasing care with fire on the part of the railroads and the public generally tends to make lightning the largest single contributing cause. This statement represents a change of view from that held less than a decade ago in this country, when forest journals gravely argued whether lightning caused forest fires, though it was known that trees were the objects most often struck. While certain trees are said to invite lightning, and others to be immune from stroke, it seems to be a fact that any kind of tree will be struck.

For the sake of the younger birds, which if given a chance may develop into just as good chickens as their bigger and stronger mates, it is wise to separate the chickens into different flocks. This is where the colony-house system has a great advantage. A colony house may be used for every different size of chicken. This system can be worked out where no colony houses are supplied by dividing the runs for a time and getting the chickens accustomed to roosting in a certain place where they may be fed separately from the other birds. It is worth while to take this precaution.

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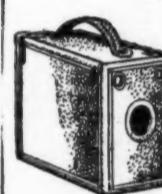
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Adjustable to any size wrist and gold plated throughout, and the fancy engraved links alternating with plain polished ones produce a very pleasing effect. Ornamented with elaborate, fine cut, sparkling ruby stone, set in richly chased border. Three-stone gold plated ring given with each bracelet.

COMPLETE CAMERA OUTFIT



This Camera outfit includes camera with automatic shutter, plates, developing tins, developer and fixer and full instructions. Will take clear and sharp pictures. Covered with moroccoette.

MESH BAG & CHAIN



Made of German silver, beautiful oxidized frame, prettily embossed with a handsome floral design. The size of the bag is 3½ x 2½, which makes it neither bulky or too small. Attached to it is a ten-inch chain.

VANITY CASE



Made of rich German Silver which has an extra finish, and is decorated with fancy flower border. This case has a mirror of good quality, and powder puff compartment and places for quarters, dimes and nickels, also a strong catch that will hold cards and bills. Attached to this Vanity Case is a ten-inch chain. Size of case is 3½ x 2½.

Cash Commission

Many of our agents prefer to sell our goods for a cash commission instead of a premium. We allow 40 per cent commission to agents who desire the money instead of the premium. In other words, you keep 80 cents out of every two dollars' worth of goods you sell, and send us the remaining \$1.20. If you find you cannot sell all our goods you will be entitled to a commission on the full amount you do sell.

LADIES' OR GENTLEMEN'S WATCH



American Model, stem-wind and stem set, suitable for a lady, gentleman, boy or girl. Case is goldine finish, which looks like gold, and is embossed with beautiful and chase design, and presents a rich and elegant appearance. Attractive, easy reading dial, with hour, minute and second hands, and is dust proof.

LOCKET, CHAIN AND RING



Hand engraved. Crescent design set with eight extra quality brilliant white stones. Locket is suspended from a 22-inch chain, and will hold two pictures. With each locket and chain we also will give an extra gift of one gold-filled ring set with 8 brilliants.

SEAL GRAIN HANDBAG



Made of seal grain with gusseted ends welted, heavy cloth lining, fitted with pockets for mirror, bottle, coin purse, etc., etc. Bag measures 10½ x 8½ inches and is fitted with fancy French gray silver finished frame, has a double strap handle.

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AUTOMATIC REPEATER
Works Like a WINCHESTER

Boys—here is the Air Rifle you have always wanted—a real repeater that loads automatically just like a Winchester or a Marlin. Nearly 3 feet long, yet weighs only 2 pounds. Uses BB shot and shoots 350 times without reloading. Will kill, at long range, crows, hawks, and all kinds of small game, such as squirrels, rabbits, etc. Barrel and all working parts made of high-grade steel, handsomely nickel plated; stock of finely-polished black walnut. This splendid rifle is just what you need for target practice. No powder—no danger—yet it will shoot almost as hard and as far as a regular .22 caliber cartridge rifle. It is the safest and most powerful air rifle ever invented.

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R. W.

Gentlemen:—Send me 20 of your high-grade art and religious pictures, which I promise to try and sell for one of your presents. I promise to return all pictures I cannot sell. Tell me how I can get the surprise package of 40 extra articles for promptness.

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DEDICATED TO MR. MILLER.

By Goose Quill.
Don't chide me, brother, if I can't
see
Far in the heavens and solve the
mystery,
How worlds are formed by cosmos
dust;
For unlike talents we do possess,
And to these inward lights we trust
and do confess,
If the one talent we wisely use,
We must devote it to the muse.

It's most a crime, and I confess it
too,
That when light sentiment is the most
of you
You are debared from weighty matters
That the Lord has required of you.

But, brother mine, I am inclined to
sing the songs of men—
It gives me joys more divine than
flaunting over them
The laws of heaven, grave and old,
The half of which can never be told—
But all can sing the great song of life,
And free the soul of care and strife.

Let the cold fingers of science weave
the laurels for thy brow;
Much as I respect your master, I
make this vow:
That in my most triumphant hour
Naught but the finger of love shall
twine one flower
In the laurels for my unworthy brow.

WHO IS CONCERNED IN THE RURAL SCHOOL PROBLEM?

Life depends upon what man gets
out of the earth. A nation is happy
and prosperous in proportion as it ap-
plies intelligence, industry and wisdom
in the extraction and use of the
earth's resources.

School exists to increase intelli-
gence, to stimulate industry, and to
apply wisdom.

The basis of our national life is ag-
riculture. The rural school is nearest
agriculture. Through it intelligence
concerning agriculture is to be
increased, industry in agriculture
stimulated, and wisdom in rural liv-
ing applied.

How about the rural school?
It is poorly housed; it is meanly
equipped; it is weakly taught; it is
miserably supported.

It has the shortest term; it has the
most irregular attendance; the school
life of its pupils ends earliest.

If, then, our national prosperity de-
pends upon agriculture; if the product
of agriculture depends upon the in-
telligence, industry and wisdom of
the tillers of the soil;

If that intelligence, industry and
wisdom depends largely upon the
rural school; and, if the rural school
is weak and inert; whom does it con-
cern?—D. R. Hatch, Colorado School
Journal.

MUSIC AND POETRY.

The people who like music love
poetry, as the two are in harmony
with each other. For twenty years I
spent at least four hours each Sun-
day playing both on the piano and organ.
I had gotten the organ first and then was obliged to get the piano
for my three daughters. But I stuck
to the organ, as I could produce more
melody and it seemed that the music
came out of the trebles and passed
through my whole body and many a
time my limbs would become so stiff
that I'd have to rub with hazel on my
knees before I went off to church,
and then in afternoon and evening I'd
try it again. But now we let the
piano player do all the work, having
disposed of the other two instru-
ments as I did not have time to use
them when I commenced to write
verses and it started in this way
when the children were all small we
would board one month each summer
with some farmer and closed up
house and I'd take train out every
night, but when distance was too
great I'd only go out every Saturday
night and return Monday morning,
and being alone in house during the
absence of family I'd get lonesome
and one night I came home and found

a letter saying Emma, the youngest,
would spend day hunting eggs which
the hens lay in the grass and then I
wrote my first verse. I have forgotten
the lines as it was not among
my 900 published poems, but it started
off as follows:

"What's that I spy in the grass over
there."

"So snowy white and fair—
'Tis another new egg the hen has laid,
That I might find it there."

Then as it seemed nice to me I
tried another, and so on. That which
is learned in verse stays with us as
long as we live. Forty years ago I
remember standing by my mother's
shoulders while she was reading to
us children and these lines I remem-
ber she read:

"If you've a hole in your pocket,
Have it mended when you've got it."

Another, the same occasion.
"Mrs. Loftus has a carriage, none
have I.
She has dapple grays to draw it, none
have I."

But the poor lady had only a baby
buggy in which she would wheel the
baby who was the pride of her heart
and she took more delight in her
baby than Mrs. Loftus, who had a serv-
ant to hold her baby while the dapple
grays went spinning down the street.
Money is only a secondary thing—
heart first and love abiding there.

ALBERT E. VASSAR.
St. Louis.

MISSOURI SCHOOL DAY.

Public schools of the state will have
a big feature day at the Missouri State
Fair on Monday, September 28. Special
entertainment and educational fea-
tures will be provided to amuse and
instruct the thousands of school chil-
dren who visit the fair at that time.

Throughout the central part of the
state it is the intent to have the
schools dismiss for a holiday and visit
the fair on that day. Although this
announcement has just been made it
has already aroused great interest in
educational circles. School boards and
teachers feel very enthusiastic over
the opportunity thus afforded of a
day's visit to Missouri's wonderful dis-
play, which among hundreds of other
attractions has an educational display
that is of rare merit.

All children under 12 years old will
be admitted to the fair grounds free
on that day, and many of the schools
will attend the fair in a body.

As a special incentive to create a
more general interest in "State Fair
School Day" a beautiful Missouri State
Flag, adopted at the last general as-
sembly, will be presented the school
having the largest attendance. In
awarding this prize, the distance and
size of the school will be considered
in figuring the percentage.

Prof. W. F. Evans, state superinten-
dent of schools, will be chairman of the
special committee to determine
what school is entitled to the flag. The
flag bears the coat of arms of Imperial
Missouri and will instill increased
state pride in whatever school is suc-
cessful in securing it. It is well worth
a special effort to obtain.

REMEMBER THE SABBATH DAY.

By J. M. Miller.

The earth is no longer parched and
hardened in this locality, as recent
heavy rains have saturated the soil
thoroughly, so that the plowman must
desist from turning up the soil and go
at those jobs that have long been re-
served for wet days. The timothy
meadows have had a hard time of it
this summer, as the drought and army
worms have almost annihilated vegeta-
tion where heavy crops of hay were
wont to grow in days gone by. The
days are cooler since the rain, and
pleasant early autumn weather may be
with us soon. I have been cutting
corn fodder a week or so, all alone in
the field, and I find out that I am not
the hand I was 65 years ago, when my
three older brothers and myself built
long rows of shocks. Those three
young men were sturdy fellows, but
two of these were called away in the
morning of life, and the other one lived
until late in the seventies, when he
became nurse in a yellow fever hos-
pital in the city of Memphis, and after
several weeks of devoted service there
among the suffering ones he died. Dur-

ing the civil war he enlisted in the Sec-
ond Iowa cavalry and served under
Grierson three years.

As I work in the cornfield I cannot
help from thinking about the great war
that is raging in Europe, and like all
other wars, this war was caused by
pure undefiled selfishness, or man's
inhumanity.

I had long thought that the nations
of Europe had advanced in civilization
to such an extent that they would not
want to kill one another for pastime
any more in this twentieth century, but
it seems like the sword will not be
thrust into the plowshare for many
days to come. The wars of Napoleon
were horrible, but this throws them in
the shade. I am not much of a tacti-
cian, but it seems to me that the gather-
ing hosts that will soon encompass
the Teutonic and Austrian forces will
before many months succeed in anni-
hilating most of them and in capturing
the rest. With blockading fleets in all
surrounding waters, provisions will in
the course of time become scarce, and
starving armies may succumb. The
God of battles will decide the case,
but such decisions are not always in
accordance with the views of mortals.
In this great war, no doubt, prophecy
is being fulfilled, but as prophetic
events are often veiled in mystery, for
wise reasons, so we may not be able to
interpret them in some cases. In a
peaceable country, like ours, men
can hardly realize the condition of the
civilians at home where invading hosts
are passing through continually and
destroying crops and valuable proper-
ty. What fearful anxiety there must
be among the women, children and su-
perannuated men at home as the days
and sleepless nights pass away, and
where children become orphans faster
than the clock ticks the moments
away. Broken-hearted mothers by
thousands and tens of thousands will
grieve piteously for darling boys that
were torn from them, when they learn
that their bodies lie moldering in
trenches with a few shovelfuls of dirt
over them. War is justifiable in some
cases to one or the other of the con-
tending armies, but woe unto those in
authority who plunge a nation into the
horrors of war without a sufficient
reason, the day of reckoning will surely
come, when atonement either here
or hereafter must be made. Many of
us now living can remember of poten-
tates who were humbled in the dust
by the high hand of heaven, for caus-
ing useless wars and wholesale butch-
ery. There are legions of undesirables
that reach our shores that ought not to
be allowed to come, and those in au-
thority will waken up when it is too
late. There are young folks now living
who will probably experience
some of the horrors of internecine
warfare in our own country, unless
those in authority take steps to pre-
vent it. Let the fathers and the moth-
ers of our land instruct their chil-
dren in the paths of religion and mor-
ality, according to the ideas of the il-
lustrious Washington, and the country
will be safe. Sabbath desecration is
far more prevalent in the great west
than it is in the eastern states. Let
the people know that a nation without
a holy Sabbath day is liable to totter
and fall.

There is great carelessness even
among some professing Christians as
to the proper observance of the sacred
day, many people are apparently un-
aware of the heinousness of the sin of
Sabbath desecration. That nation that
remembers to keep the Sabbath day
holy, will be under God's especial care,
and although He at times may chastise
such a people for their own good and
His own glory, yet they will never be
allowed to endure ruinous calamities.
If our nation was what it ought to be,
pests would not multiply in our fields,
and the windows of heaven would be
opened and the rain would descend upon
the parched earth. The people
cause their own sorrows. Let Christians
and worldly people, too, remember
to keep the Sabbath day holy and
also that there are nine other com-
mandments to keep, not only in deed,
but in thought and word. There would
not be room enough to receive the
blessings of heaven that would be
showered upon us if we would banish
whisky, beer and other strong drinks,
and also tobacco and other harmful
drugs from our land. I know one
poverty-stricken couple with a house

Sick Headache, Indigestion and Other Ills Conquered.

When nature falters and from over-
work a tired, wornout body is unable
to perform its natural functions, ELLA R. BERRY'S CREEOLE TEA is indi-
cated and may be confidently relied
upon to stimulate the liver and by
freely taking it all the year around,
by old and young alike, Chronic Con-
stipation, Indigestion, Colds, Rheu-
matism, Bad Complexion and Skin Dis-
eases can be relieved and overcome.
For nursing mothers, after it is steeped,
as told on each box, and for children,
there is nothing better than
ELLA R. BERRY'S CREEOLE TEA in
Herb form. A little sugar can be
added to the tea and mild doses, ad-
ministered from time to time, will
keep them well and healthy. At all
drug stores, 10 cts a box.



full of children, and all of them use
tobacco, and they are hardly able to
buy the flour they eat, and yet they are
professing Christians. I might say
much more upon this subject, but the
sun is approaching the western horizon,
and tomorrow I must use the
corn cutter.

The belief that temperatures are
highest during sunspot minima is op-
posed by Mr. A. B. MacDowell, who
finds evidence that during the last 60
years sunspot maxima has been accom-
panied in England by the higher
temperatures. The same meteorolog-
ist attempts to prove a connection be-
tween barometric pressure and the
moon's phases and between relative
humidity and the moon's phases.

Trees producing cotton are culti-
vated in hothouses of Vera Cruz, but
their fibre is very short. A planter
of Jalisco, Mexico, is credited with
having developed a tree of rapid
growth that produces cotton of long
fibre and fine quality. The advantages
offered by this tree, if the claims are
realized, are that it is free from the
diseases that are so disastrous to the
cotton plant, its yield is greater for
the same area, and its product can
command a higher price.

THE PROGRESS-DRIVEN PLOW

If you listen you will hear, from East
to West,
Growing sounds of discontent and
deep unrest.
It is just the progress-driven plow of
God,
Tearing up the well-worn, custom-
bound sod,
Shaping out each old tradition-trot-
ten track
Into furrows fertile, furrows rich and
black.
Oh! what harvests they will yield
When they widen to a field!

They will widen, they will broaden
day by day,
As the progress-driven plow keeps on
its way,
It will riddle all the ancient roads
that lead
Into palaces of selfishness and greed
It will tear away the almshouse and
the slum
That the little homes and garden plots
may come.
Yes! the gardens green and sweet
Shall replace the stony street!

Let the wise man hear the monos
that is blent
In this ever-growing sound of discon-
tent.
Let him hear the rising clamor of the
race
That the few shall yield the many
larger space;
For the crucial hour is coming when
the soil
Must be given to, or taken back, by
toil,
Oh! that mighty plow of God—
Hear it breaking through the sod!
—Ella Wheeler Wilcox

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Farmers' Classified Department

60,000 PAID CIRCULATION

Colman's Rural World now has a family of over 60,000 paid in advance subscribers every week. This means that at least 250,000 farm folks are readers of these columns. Figure the cost of sending each of these readers a personal letter each week and then compare that cost with the low rate at which you can reach them ALL through the Classified Columns below. Count up the words in your advertisement, including initials and numbers which count as words, and multiply by two and you will quickly appreciate how low the cost is to reach these 60,000 buyers every week. No advertisement less than 10 cents accepted—and no fakes under any circumstances. Cash must accompany all orders.

ADDRESS,

COLMAN'S RURAL WORLD, Advertising Department, 718 Lucas Ave., ST. LOUIS, MO.

ARKANSAS LAND.

FARMS direct from owners. Fifty select improved farms, northern, central and southern Arkansas. Greatest possible values. Write now for descriptive booklet. Buyers and Sellers Exchange, Little Rock, Arkansas.

FARMS AND LANDS.

FOR A square deal in wheat lands, ranches, write R. C. Buxton, Utica, Ness Co., Kan.

LITTLE RIVER VALLEY LANDS, rich and cheap; on railroad. Robert Sessions, Winthrop, Ark.

FOR SALE—146 acres second bottom land, $\frac{1}{2}$ mile from the city of Concordia. C. B. Haldeman, Concordia, Kan.

ONE OF 2 FARMS must be sold, one 22 acres, one 100 acres. H. W. Hendrix, Mavern, Ark., R. F. D. 1, Box 57.

I HAVE three good ranches for sale, well equipped. For information apply to owner, J. R. Phelan, Alliance, Neb.

SPLENDID FARM, \$2,000.00 cash, balance on time. Too old to farm. Address owner, Box O, Bado, Mo.

SPLENDID FARMS and lands for cash and trade. Best part of coast country. Hal Runnels, Riviera, Texas.

FOR SALE—120-acre dairy farm near creamery, good neighborhood, \$90 per acre. J. E. Armstrong, Claremont, Ill.

FOR SALE—Fine Plantation—215 Acres—Near Richmond; fine stock, grain, grass and tobacco farm. Route 2, Box 37, Blackstone, Virginia.

FOR SALE—Ten acres unimproved strawberry land. One-half mile from Anderson, Mo. \$350. This is a snap. Frank M. Griffin, Box 25, Fullerton, Ky.

YELLOWSTONE VALLEY LANDS—Alfalfa, sugar beet, wheat and stock ranches. Write for list. The J. A. Hardin Real Estate Co., Hysham, Mont.

FOR SALE—Twenty acres, half in apple orchard, near town. Splendid for berry-raising or poultry farming. Price reasonable. Grant Walkenhorst, Concordia, Mo.

FINEST irrigable fruit, alfalfa lands fence valley, \$3 to \$10 acre; 40 tons alfalfa one cutting; 20 acres 6 cuttings annually. Low excursion rates. P. H. Goodloe, 533 Lancaster Ave., Dallas, Tex.

SEED AND NURSERY STOCK.

SWEET CLOVER—Order now. Mrs. J. T. Mardis, Falmouth, Ky.

SEED RYE—Big White Variety \$1.40 per bu. D. J. Myers, Greensburg, Indiana.

SWEET CLOVER SEED—Eight-pound sample, hulled, cleaned, \$1. Haskell & Haskell, Garden City, Kan.

PEONIES FOR SALE for fall planting; choicest varieties, strong roots; attractive price. Mrs. John Henderson, 2909 Monterey, St. St. Joseph, Mo.

DOGS.

BLOODHOUND PUPPIES—English, registered, pure-bred. W. N. Cavin, Mt. Holly, N. C.

BEES AND HONEY.

FOR SALE—Comb and extracted honey, Tennessee hams and bacon. J. H. Harris, Morristown, Tenn.

NULL'S FAMOUS Melliotus Honey—10-pound pail, prepaid, express office for \$1.40. W. D. Null, Demopolis, Ala.

BEST QUALITY new clover honey, 20-lb. can, \$2.45, two or more cans, \$3.50 each. Sample 10c. Price list free. M. V. Facey, Preston, Minn.

AUTOMOBILE.

CYLINDER rehored, including piston and rings, \$7.00 to \$11.00. Sterling Engine Co., 231 S Clinton St., Chicago, Ill.

SCHOOLS.

LEARN AT HOME—Bookkeeping and business. Low cost. Easy terms. Positions secured. Write for free trial. Brown's Correspondence School, Dept. A, Box 597. Freeport, Illinois.

BE AN AUCTIONEER. Learn by correspondence. Satisfaction guaranteed or money refunded. Booklet with full explanations free. Omar System Auctioneering, 98 Mill St., Attica, Indiana.

AGENTS.

WILL PAY reliable woman \$250.00 for distributing 2,000 free packages Perfumed Borax Washing Powder in your town. No money required. W. Ward & Co., 214 Institute Pl., Chicago.

POULTRY.

EGGS—Single Comb Rhode Island Reds—\$1 for 15. Oak Hurst Yards, Inskip, Tenn.

60 VARIETIES prize winning geese, ducks, turkeys, chickens, peafowls, guineas. Write wants. Stock cheap. G. B. Damann, Northfield, Minn.

FOR SALE—Thoroughbred turkeys, geese, ducks, 18 varieties of poultry, guineas, bantams, dogs, hares, rabbits, fancy pigeons. Write your wants. D. L. Bruen, Platte Center, Neb.

LIVE STOCK.

REGISTERED SHORTHORN cattle and grade Percheron horses. C. W. Barnes, Bunker, Okla.

FOR SALE—Charley Neel, registered hay stallion; sure trotter. A. L. Atkinson, Breckridge, Mo.

FOR SALE—Registered and vaccinated, Cherry Red Duroc-Jerseys. F. S. Wells, Imogene, Ark.

REGISTERED HAMPSHIRE HOGS, best quality, reasonable prices. Frank Franklin & Sons, Tulsa, Okla.

BERKSHIRES, registered, 120 lbs., \$20. Broad heads, large bone; Masterpiece breeding. H. C. Luttrell, Paris, Mo.

POLAND CHINAS at Hill Top Stock Farm, also Aberdeen Angus bulls. For particulars address E. M. Goodrich, Archie, Mo.

SPOTTED POLAND CHINAS for sale. Five fall boars, spring pigs, both sexes. Prices reasonable. R. L. Mount, Polo, Missouri.

FOR SALE—Hampshire-down Bucks. Registered Shire stallion and young Aberdeen-Angus bulls. J. M. Allen, Kingston, Tenn.

AYRSHIRES—Choice bull calves from two to eleven months old, best of breeding. Come or write. Pioneer Home Farm, Milltown, Wis.

FOR SALE—A Short Horn bull calf, bred right and priced to sell. Also Polled Hereford. G. A. Davis, R. 4, Box 12, Thomas, Okla.

THREE YOUNG Berkshire boars, large English type; ready for service; also breed gilts and young pigs. J. I. Cain, McCall Creek, Miss.

GUERNSEY CALVES, 10 heifers, 2 bulls, beautifully marked, \$20.00 each crated for shipment anywhere. Write Edgeworth Farm, Whitewater, Wis.

200 HEAD of Holsteins. Owing to shortage of feed, will sell my entire herd of high-grade cows and heifers in the next 60 days. H. F. McNutt, Oxford, Wis.

REGISTERED Holstein Bull ready for service. Two of his dams averaged 25,261 pounds butter, 7 days, officially, \$150. R. M. Harriman, Appleton, Wis.

FIGS—Pure-bred O. I. C.'s, March, April and May farrow; two brood sows due in October. Orders booked for fall pigs. Prices reasonable. J. D. Shelmidine & Sons, Lorain, N. Y.

IMPROVED Chester swine, 15 March boars, 2 service boars, a lot of gilts, best blood lines of three states. Prices reasonable; every animal guaranteed. Reginald Mortimer, Virden, Ill.

FOR SALE—A choice 4-year-old registered Guernsey bull, with advance registry ancestry and 6 bull calves, sired by him that will be ready for service this fall; also, 7 high-grade heifers. Seymour A. Merriman, Ft. Atkinson, Wis.

HELP WANTED.

MEN WANTED, prepare as firemen, brakemen, motormen, colored train porters. No experience necessary. Steady work. Write Inter Railway, care Rural World.

WANTED—Men and women—18 or over. Get Government jobs. Thousands appointments this year. \$65.00 to \$150. month. Write immediately for list of positions available. Franklin Institute, Dept. L 87, Rochester, N. Y.

MISCELLANEOUS.

ALFALFA—Colorado Irrigated alfalfa hay for prompt shipment. Geo. R. Wilson, Lamar, Colo.

ANTI-SUFFRAGE literature mailed on request by the Cambridge Anti-Suffrage Association, Cambridge, Mass.

"HERB DOCTOR RECIPE BOOK" and catalog describes herbs for all diseases, worth \$ only 10c. Ind. Herb Gardens, Box 62, Hammond, Ind.

ATTENTION—Earn a weekly salary addressing envelopes in spare time at home. Either sex, anywhere. Full particulars, 10c. com. Illinois Mail Order House, Dept. Z, Salem, Ill.

SITUATIONS WANTED.

FARM MANAGER, middle aged couple; no children, want charge good farm for old couple or widower. Salary or shares. Good reference. Box 36, Pine Lawn, Mo.

TRACTORS VS. HORSE POWER ON FARMS.

(Continued from Page 5.)

and the majority were of the opinion that this was above the average.

The highest cost figure given by any when a season's work was considered, farmer for horse plowing was 83 cents; the lowest cost giving by any on tractor plowing was \$1.55. All agreed, also, that the tractor suffered a still greater disadvantage in the lighter work, such as disking, seeding and harvesting.

Still more significant of the judgment of Canadians on this question was their actual field procedure, seen in an extended auto trip in Alberta, at a time when summer fallowing was in progress. But three tractor outfits were seen at work, but we passed hundreds of horse-drawn plows. At numerous places we found tractors idle in the farm yards or sheds, while the farmers were doing the field work with horses.

Leading bankers and managers of land and loan companies were interviewed regarding the financial success of farmers who operated with tractor outfits as compared with farmers who used horses. Without exception, they declared emphatically that men who held to horses had scored much the greater success. Several declared that they would rather, ten to one, loan money to farmers who operated with horses; and several stated that they had no money to loan to farmers who bought tractor outfits, unless the buyer had sufficient resources to lose all he had put in the tractor and still remain solvent. Even then, the loan was not favored.

Commercial men, familiar with conditions, expressed substantially the same views. The consensus of opinion was that tractors were effective in sod breaking, and that their use has hastened the tillage of Canadian broad prairies; but it was also felt that the purchases and use of such outfits had bankrupted thousands of farmers, and that their use should be discontinued save for threshing, road work, and the breaking of prairie sod.

Overinvestment in machinery has been a costly mistake made by thousands of American farmers. Men who can profitably use tractor outfits under our farming conditions are not the rule, but the exception. No tractor has yet been devised that will utilize the rough feeds and grasses of the farm as fuel, and none have been built that will reproduce themselves by breeding while carrying out the work of the farm. WAYNE DINSMORE, Secretary Percheron Society of America.

SWAT NEXT SEASONS BUGS AND WEEDS.

A little work in the garden now will save a lot of it next year. Weeds left to go to seed and rubbish lying around for insects to breed in are work-makers. We have more time now to prevent a lot of weeds and bugs next year than we'll have next season to fight them. Professor Conradi of Clemson Agricultural College tells just how to go about the matter of prevention.

The best time to fight our most destructive garden insects is not in the spring after the crops have started. That is the worst time that could be

selected. The best time is in the fall and winter, by an intelligent removal of all crop refuse.

Feed anything that is good for that purpose and make compost of the rest or plow it under.

Where clean gardening is practiced, when the pests appear in the spring they will be few in number and it is then comparatively easy to examine the garden once or twice a week and, when you see a cluster of cabbage bug eggs or a colony of newly hatched bugs, to destroy them and prevent their increase.

Your cabbage refuse left in the garden last season supported an army of the calico-colored cabbage bugs through the winter and you felt discouraged when they wrought havoc with your succeeding crop.

Perhaps you left a lot of old turnips or mustard in the garden. It was just as bad. Part of the garden was covered with weeds which furnished protection and support for caterpillars, bugs, lice and hordes of other garden pests.

Instead of having the grass and weeds, the sowing of rye and vetch, or vetch alone, or crimson clover, would have put these pests out of business and would have enriched the soil besides. Rye, oats, vetch and clover are remarkably free from bugs, especially garden bugs.

The long grass around the edge of the garden is a regular bug hatchery. It pays to keep it down. Piles of brush and weeds left in the garden are sure to give you endless trouble the following season.

LAMBS AND SILAGE.

Corn silage as a sole ration for lambs is not the best of feeds, according to recent experimental feeding. When fed, the lambs were thrifty during the feeding period, but would not eat enough silage to fatten. The total of gains made by the lambs fed on ensilage did not amount to as much as the average gains made by other lambs that received other feeds.

SHEPHERDING POINTS.

In buying sheep, do not pick out the big, coarse ones.

A successful sheep feeder gives about one pound of oats and corn, or bran and corn per head daily.

Even if your sheep are not purebred, it pays to have a registered thoroughbred ram at their head.

There are few other crops grown on the farm that vary as little in price as wool.

FIGHTING THE TICKS.

The best way to rid sheep of ticks is to dip them in any dip that is good for scab. If you have no dipping vat, a small number, such as you have, may be successfully dipped in a large tub or barrel, as each animal may be caught and held in the fluid until the wool of the whole body is thoroughly saturated with the dip. While it is best to do this in warm weather, it may be done at any time, provided the animals are kept in a warm place until dry.

THE ART AND ETIQUETTE OF COURTSHIP.



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THE ART AND ETIQUETTE OF COURTSHIP.

This is a new book just published, and contains numerous hints and suggestions that will be found of great value to persons of both sexes in matters pertaining to courtship. The plan and scope of the work will be best understood if we quote the titles of some of the chapters, as follows:

"Courtship Made Easy," "How to Know Your Mate," "Courtship and Marriage," "Young Girl with Whom You Are Not Acquainted," "Courtship when the Person You Propose to Marry Is Acquainted," "Courtship of a Proud Young Girl," "Courtship of a Young Girl with Whom You Are Acquainted," "How to Catch a Rich Bachelor," "General Rules to Observe in Conducting a Courtship," "How to Pose in a Courtship," "How to Win a Wife," "How to Woo a Husband," "How to Manage her Beau to Make Him Propose Marriage," "How to Catch a Rich

Horseman

Miss Mobel, 2:16½, is a new pacer for Mobel, 2:10¾.

Bronson, by Bingen, now carries a race record of 2:12¾.

The bay mare Balala, by Bingara, has reduced her record to 2:12.

Star Pointer, 1:59¼, has a new 2:10 pacer in Star Elect, 2:09¾.

Joe Patchen, 2:07½, gets another new pacer in Sabrina Patchen, 2:16¾.

Nat Ray won again with Tredell, 2:10¾, at Parkersburg, W. Va., last week.

Grand Opera finally carries a record somewhere near where he was able to pace in 1912—2:05½.

Sunshine Girl, by Ozono, won the two-year-old trot at Goshen, N. Y., taking a record of 2:20¾.

Earlwood L., 2:12¾, turned the tables on Prince Ingomar, 2:12½, at Parkersburg, W. Va., last week.

Eddie McGrath and Farmer Gentry, from the two-lap tracks took the Grand Circuiters into camp at Pittsburgh.

W. L. Snow's good three-year-old, Lucille Spier, 2:07¾, took the 2:17 trotters into camp at Pittsburgh last week.

The two-year-old colt Henry Todd, by Henry Setzer, 2:10¾, reduced his record to 2:20 at Goshen, N. Y., last week.

King McKerron, by John A. McKer-
ron, 2:04¾, reduced his record to 2:11½ at Jackson, Michigan, in a six-heat winning race.

Worthy Prince, by Prince McKinney, 2:29½, out of Nell Worthy, 2:22; by Axworthy, 2:15½, now carries a race record of 2:11¾.

In a race at Goshen, N. Y., last week, Morine, by Mohel, took a record of 2:13½, and Vallette, by the same sire, took one of 2:13.

Billy M., half-mile track record 2:04, holder of seven world's records, will go an exhibition mile at Goshen, Ind., Thursday, Sept. 3.

R. J. Tranter's good two-year-old Native Spirit, 2:12½, was sired by Native King, 2:11¾, dam Great Spirit, 2:11¾, by Prodigal, 2:16.

Adbell M., 2:09¾, by Moko, out of Miss Adbell (3), 2:09¾, by Adbell, 2:22, showed himself a good three-year-old in his Pittsburg race last week.

The world's pacing record for four-year-old geldings, which has stood to the credit of W. Wood, 2:07, since 1893, now belongs to R. H. Breat, 2:05½.

Rosebud McKinney, pacing record 2:13½, by McKinney, 2:11¾, is winning at the trot about every week and now carries a record of 2:16¾, at that gait.

Ben Kenney is now in the employ of James R. Magowan of Mt. Sterling, Ky., and will train the good string of youngsters by J. Malcolm Forbes, 2:08.

WHEN TO SELL.

"When to sell?" is a proposition that has been discussed more than any other connected with the breeding and racing of horses. Of course to the millionaires in racing for fun and excitement the buying proposition is the only one of interest, but to the breeder and nine-tenths of the racing men the selling proposition is one of supreme importance, says Western Horseman. Not a man connected with the sport but can cite instances of where five or ten thousand dollars has been refused for a good prospect only

to sell later, after a big bill of expense had been piled up against the horse, for a few hundred or a thousand. Only in rare instances has a horse made good after a really fancy price has been offered and refused. In this connection it is well for the man of moderate means to consider whether the horse will do as well for him as for the would-be owner; can he afford the right trainer, and can he stand to stake the horse, incurring obligations of thousands before the close of the season? The "other fellow" is entitled to do well with his new purchase, for he has paid the money and taken long chances. Attention was very recently called to this subject because of the fruitless negotiations for Old Rosebud, a runner that is favorite for the Kentucky Derby. The record price for a thoroughbred gelding is \$25,000. The owner of Old Rosebud stated that his price was \$40,000 when \$30,000 was offered him and stuck to it when the would be purchaser offered \$35,000. The story called for the following comment from a veteran trainer: "I do hope that no ill-luck will attend Old Rosebud," said Trainer Charles H. Hughes, "but there is a jinx that generally follows the refusal of large sums for race horses. I have had it happen to me a number of times. It was this idea that caused me to sell Garry Herrmann to Capt. Sam Brown for \$20,000, though I could just as well have kept the horse, the owner leaving the matter entirely in my hands. Garry Herrmann never went to the post after I sold him. Race horses are mighty perishable property, especially when it comes to the \$40,000 geldings."

GIVE THE HORSE CARE.

If you ever started to work in a harvest field when your muscles were sore from life in a schoolroom, you know how to sympathize with the work horse that has little to do all winter and then is kept pushing on the collar all day as soon as spring work opens. The horses will give you better service and will do the work with greater ease if you give them a little special care for a short time before the heavy work begins.

"If a man has a farm of heavy soil and is producing cultivated crops, he will need strong, heavy draft horses," says W. L. Blizzard, assistant in animal husbandry at the Kansas Agricultural College. "No matter what type of horse you have, however, or what kind of work is to be done, he should not be rushed into hard work without preparation. Horses are soft in the spring, and after being kept on a suitable maintenance ration, such as corn stover, hay, straw, and a limited amount of grain, they should gradually be placed on a ration of energy-producing feed.

"It takes from two to three weeks to get a horse that has been more or less idle during the winter, into shape for steady field work. The work horse should have plenty of grain. Oats and bran, or corn, bran and oil meal are a good ration. When the horse is doing hard work, four to seven quarts of this mixture will be needed three times a day. The feed should be cut down on days when the horse is idle. Fourteen to eighteen pounds of good hay should be fed to each horse in a day. About two-thirds of the hay should be fed at night, and the other third in the morning. Little or no hay should be fed at noon. It is always wise to avoid giving a working horse bulky feed at noon.

Use the Currycomb.

"It pays to use the currycomb and brush. Thorough grooming is as important for the health and condition of the work horse as is a bath for a hard-working man. All dirt should be removed from the inner side of the collar every day. At the beginning of the season the shoulders should be toughened by being bathed every evening with cold salt water. Don't wash a warm horse with cold water; it often will cause rheumatism and stiffness.

"It is a good plan to give the horse a short rest occasionally, on hot days, and lift the collar to cool the neck and shoulders. Don't cut off the mane. Short, stubby hairs under the collar cause irritation and sore necks.

The hoofs should be rounded with a rasp to prevent splitting, and to keep them from getting out of shape."

THE MULE IN THE COAL MINE.

The Missouri mule has not been superseded by machinery. He can still be heard, and sometimes felt, in the land. The following story concerning the mule's life after he grows up and goes east is printed in the New York Press:

The sight of William Howard Taft rubbing noses affectionately with Theodore Roosevelt while Woodrow Wilson gazes benignantly at them from the next stall is not an unusual one in the anthracite fields of Pennsylvania. But it should be pointed out that the bearers of these names are quadrupeds with longer ears than our past and present presidents—they are the invaluable mine mules. During political campaigns the whole nomenclature of the men in the public eye passed below ground into the anthracite mines of northeastern Pennsylvania, to be applied to these patient animals.

"Of course," said the expert in charge of the 2,400 mules of one of the big companies, "there are Sams and Jakes and Petes and Mikes, but the commonest mule name is that of William Jennings Bryan."

In spite of all mechanical improvements, the expense of this branch of coal mining has increased greatly within the last dozen years, owing to the high cost of both materials and labor. A startling example of this is shown in the advance in prices of mules. One buyer secured his mules at an average price of \$145 each in 1901; the average cost in 1907 was \$210 and today it has risen to \$235. As there are approximately 17,000 mules at work in the anthracite mines of Pennsylvania and some companies pay as high as \$250 for the best mules, this would make their aggregate value about \$4,000,000.

Only the stronger animals are wanted in the mines, and dealers scour the country for the choicest specimens. The best mules for hauling coal are short and heavy set. They stand about 16 hands high—4 inches to a hand—and weigh from 1,200 to 1,250 pounds. A mule is not usually given to nerves and worry, but it is an interesting fact that on the trip in from Missouri, for instance, by way of St. Louis, Indianapolis and Pittsburgh to the anthracite fields, these animals lose from 100 to 125 pounds. The unusual experience, the noise of the passing trains and locomotives and the presumable uncertainty as to the future, all excite them, and the mules refuse to eat. However, a few days or weeks of the comparative luxury in the mines soon restores their usual outlines.

Luxury is a word which was chosen advisedly, for in few other places do mules enjoy stables electrically lighted and carefully drained and sanitized, with fresh running water a few inches from their noses, just beyond their amply filled feed boxes. The floors of the stables are of concrete, except where the mules stand—stone or masonry is too slippery and would hurt their feet—and the walls and roof are whitewashed.

Every large company has a veterinary surgeon and assistants in charge of the health of the mules, in addition to the stable bosses who see that they are properly treated, cared for and fed. In addition to supervising their feeding and watering, it is the duty of the stable bosses to see that they are not worked too hard, and that they are in good condition when they start and when they leave their day's toll. Each individual driver is responsible to the stable boss for feeding and cleaning the mules that he drives. There are no flies or insects in the mines, and one fact that strikes a casual visitor to the long rows of stalls in the underground stables is the immobility of the tails of the mules. According to Darwin, this lack of use should ultimately result in atrophy that member until, if the coal holds out long enough we shall finally have the tailless mule.

However, they have to be kept clean and curried, and one of the devices in use for this purpose is both novel and interesting. A curry is attached to a vacuum cleaner run by a four-horse-

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power motor, and the hose attachment carries away the dirt to a depository behind the stables. The mules seem to enjoy the operation thoroughly and, according to the expert in charge where this is in use, the result has been an improvement of 50 per cent in their condition.

Two further devices for the comfort of the four-legged workers used by one of the large companies are their shower baths and ordinary tub baths. When the mules work on a slope they are led out at night, and at one of these places there is a pit four feet deep, 10 feet wide and 37 feet long through which the mules delight to walk. The pit is surrounded by a railing of 3-inch pipe. In the winter steam is turned into the water to keep it at a moderate temperature.

Woe to the mine workers the cover of whose dinner pail is not securely fastened, as the mine mule has a Catholic taste in food and will nose off the cover and partake impartially of tobacco, candy and pie.

The average life of a mule in the mines is about eight years, and he is generally about six years old when he gets the job, as young mules are not equal to the sustained heavy work.

In most cases, when a mule goes down into a coal mine he is there to stay, but there are exceptions to this rule. A mule working on a slope may be taken out every night.

When a mule is idle for more than three days the mules which cannot be exercised in rotation, doing the innumerable odd jobs of hauling which are constantly necessary, are generally hoisted to the surface. Their shoes are removed, they are turned into a pasture, and then the fun begins. However luxurious their lives below ground, there is something in sunlight and open air that appeals to the nature of a mule.

An instinct of mule sense is to be witnessed at the bottom of a shaft near Hazelton, Pa. Joe, a big brown mule, as stolid and unconcerned as the rest of his tribe, stands near the bottom of the shaft every working day to help in moving stuck cars off the hoisting cages. When an empty cage is lowered and does not run off the cage easily, Joe's job is to back up to it, be hitched, and pull it off. From long service here he is able to judge instantly when a car will not move without his assistance. No one has to urge him. He sees what's wanted and backs up to the car.

Junior Watts, 2:11¾, won his ninth straight victory at Finlay, Ohio.

Squanto 48355, sire of Squantum, 2:08¾, winner of second money in the Horseman Pacing Futurity recently, is a six-year-old bay horse by Todd, 2:14¾; dam Castanea, 2:19¾ (dam of Cochato), by Pistachio, p., 2:21¾. Squantum's dam is May Day Medium, p., 2:18¾, by Pilot Medium.

damage to young crops next spring and summer.

Mr. Sanders predicts that, unless control measures are soon adopted, the loss by these pests next season will be exceedingly heavy.

"As June beetles, these pests," says Mr. Sanders, "do but very little harm, but next spring, as full grown grubs, they will be capable of doing untold damage, feeding almost entirely on living roots, preferably corn, timothy, potatoes and strawberries."

While June beetles in themselves are harmless, they are of course responsible for the white grubs, which do so much damage to growing crops. They lay their eggs in land covered with vegetation during the time of their flights, which is in May and June. Consequently land in small grains, timothy, and such other crops as cover the ground, as well as land which was overgrown with weeds at that time, is most likely to be infested with grubs.

While fall plowing and deep disking are of great value in destroying the grubs, Mr. Sanders does not recommend them as entirely satisfactory means of eradicating these pests. In addition to this precaution, farmers should carefully plan their rotation for next year so as to plant only those crops which are least susceptible to the grubs, such as small grains, clover, vetch, etc. on land that was covered with heavy vegetation last spring.

Cornfields which were kept cultivated and free from weeds last season may be planted to corn, or potatoes next spring with a reasonable degree of safety.

The grubs have been found this year in the northern part of the state and in some of the potato growing districts, where they have never been seen before. Mr. Sanders is working out new methods of control, but as yet it is too early to predict what results will come from his experiments.

SHEEP FEEDING — SILAGE A FACTOR.

The general trend of the mutton industry at the present is upward. Statistics show that in 1888, 2,602,543 head of cattle; 4,921,721 head of hogs and only 1,515,014 head of sheep were received at the Chicago market. On this same market in 1912, we find that the number of cattle received numbered only 2,652,342—an increase of only a little over one per cent in the total number of cattle received in the last 25 years. Hogs increased during the same period only 46 per cent. The 1912 statistics show that Chicago received 7,190,967 head of hogs. The outstanding increase is with sheep. The number of sheep received at the Chicago market has increased in the last 25 years a little over 300 per cent, 7,055,546 head of sheep were received on this market in 1912. This unquestionably points out the fact that America is fast becoming a mutton eating country, says Missouri Farmer.

The comparatively low price of mutton in the last few years has brought about a great change in the attitude of the city people toward mutton. The industrious housewife has learned to prepare mutton so that it makes one of the finest meats for the table. The laboring man has been forced to use mutton as the meat of his diet because of the comparatively high price of pork and beef. And from time immemorial, mutton has been recommended as a food for the sick. Mutton broth is universally recommended by physicians for their patients because it is so much more easily digested than rich pork. The tuberculosis campaign has also been an aid to the mutton industry because we find from the government report that out of all the millions of sheep carcasses inspected at the packing houses by government inspectors, not one carcass of mutton has been thrown out on account of tuberculosis.

The rapid fluctuation of the sheep market has caused many to regret their first experience of feeding sheep. However, if the same person should lose a corn crop, it would not stop him from putting in as much or more corn the following season, because in the long run he has found that he can make money on the corn. The same results would follow with the sheep feeding industry. The men who have stayed in the business one year with

another have in the long run made money, but the "in and out" man who feeds when prices are high and sells when they are low, seldom makes money in any kind of a proposition.

Missouri is geographically one of the best situated states in the Union for feeding sheep. We have on our western borders the producers of the feeder stuff and on the east the market for the fat stuff, and within our borders we have one of the greatest corn producing states in the Union. As corn is the basis of practically all feeding operations, we are fortunately situated for feeding almost any kind of live stock.

The question of feeds for sheep depends much upon the particular condition of any locality. In the larger feeding sections of this state, corn is the basis of all feeding operations, with or without a supplement, depending upon the kind of roughness used. If clover or alfalfa hay is fed exclusively as a roughness, cottonseed meal or linseed oil meal is not usually added to the ration. However, if the above leguminous hays are scarce and the roughness is partially made up of timothy hay or corn fodder, it is advisable to add a nitrogenous supplement to the grain ration, in the proportion of 6 to 7 parts of corn to one part of cottonseed meal or linseed meal. Silage is fast coming into favor with the larger sheep feeders. It furnishes a cheap and efficient roughness in the feed lot. Experimental data shows that half of the hay can be replaced with silage and that it will take about two pounds of the silage to

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added. The object of this manner of feeding is to get as much gain as possible on the cheap silage and then for the last 30 to 40 days of the feeding period, corn is added to the ration to harden the fat and increase the condition of the sheep. This method has proven very satisfactory in a great many sections. However, it will take an experienced feeder to carry on this method of feeding as it should be done. The more common method of feeding is to feed a little less than a pound of silage and grain



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siderable hay will be lost when fed on the ground.

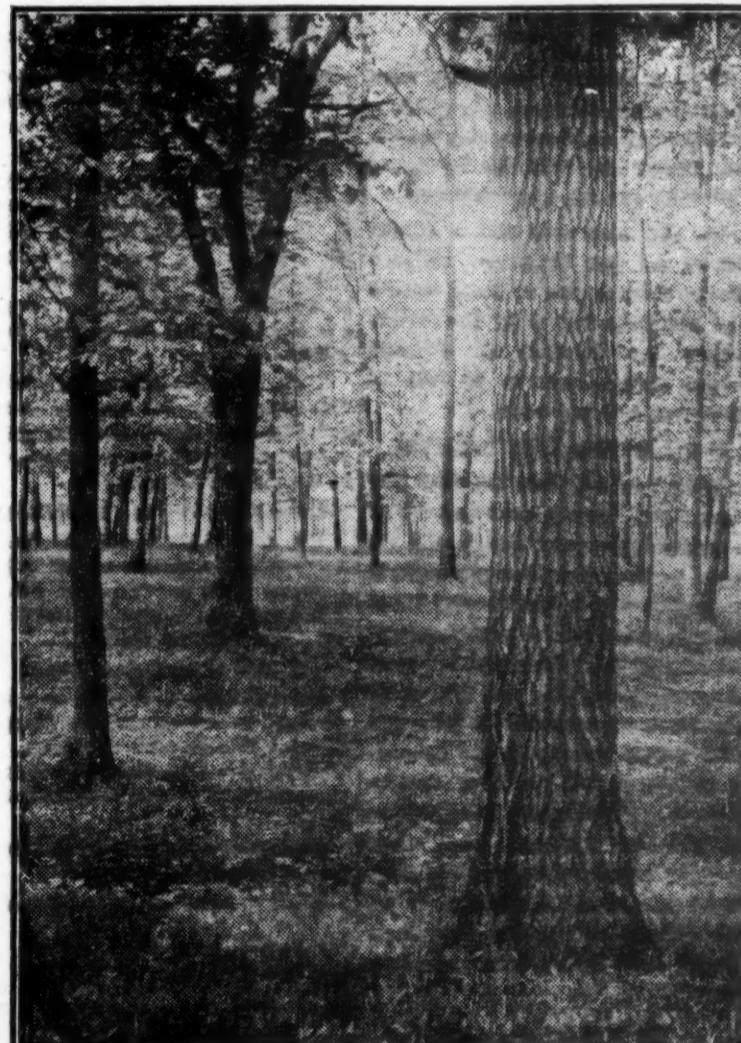
The grain is usually fed with the silage, either put in the trough before the silage or mixed with it as the silage is loaded from the silo. This is especially true where cottonseed meal is fed with the grain as mixing the grain and cottonseed meal has two distinct advantages: First, that it prevents the stronger and greedier sheep from overeating; and second, it saves the cottonseed meal from blowing away when the wind is bad.

Some feeders have comparatively poor success with feeding silage to sheep, but in most cases it will be found that the silage fed has not been of good quality. Moldy or extremely sour silage is a very dangerous feed as sheep are very susceptible to silage poisoning. In starting lambs on a feed of silage, it is in most cases advisable to start slowly—not feeding over a quarter of a pound, i. e., a small handful per head per day—and gradually working them up to a full feed. When on full feed, the sheep should clean up all the silage fed within an hour or an hour and a half after feeding. One should be careful and not overfeed his sheep as poor results will follow. The successful sheep feeder always has his lambs coming up to the feed trough with keen, healthy appetites. If any of them lag, it is advisable to look after them at once as the profit is made by cutting down the loss.

Good green crops in variety keeps the lamb growing at a rapid rate. A good pasture, with shelled or ground corn, will in six months prove to anyone that there is no better time to fatten sheep than in summer.

Hurdles are a great aid in handling sheep in certain circumstances. They are convenient in pasturing on rape and similar crops where the sheep are to be confined to a portion of the field. This is desirable because it prevents the sheep from picking out the choicest pasture first and leaving the poorest for the last when, as a matter of fact, under fattening conditions, the best should be available. Fencing off part of the field in this way makes more frequent the rotation of pasture. Woven wire fencing is used for making temporary inclosures.

A practice far too prevalent among American flock-owners is to turn their flocks to pasture in the spring and thereafter allow them to shift for themselves during the rest of the pasturing season. Where plenty of highly nutritious forage is accessible and the range quite extensive, the practice is not so harmful; but where the flock is confined to a limited area and the pasture becomes "sheep sick," there is considerable danger of stomach worms and other internal parasites, causing untold trouble and loss.



SOME FINE YOUNG TREES.

replace one pound of clover hay. Hence, if we can figure our silage so that it costs us less than half the price of hay, we can assume that it is an economical feed, provided it is good, sweet silage that has been kept well. Inferior silage is, of course, a poor feed for any kind of live stock.

There are several methods of feeding silage to sheep. One that is commonly used by the large number of Missouri and Illinois feeders is to feed silage and clover hay without any corn for the first 40 to 60 days of the feeding period. The lambs are induced to eat as much silage as possible and a little clover hay. Frequently to this ration one-third to one-half pound of cottonseed meal is

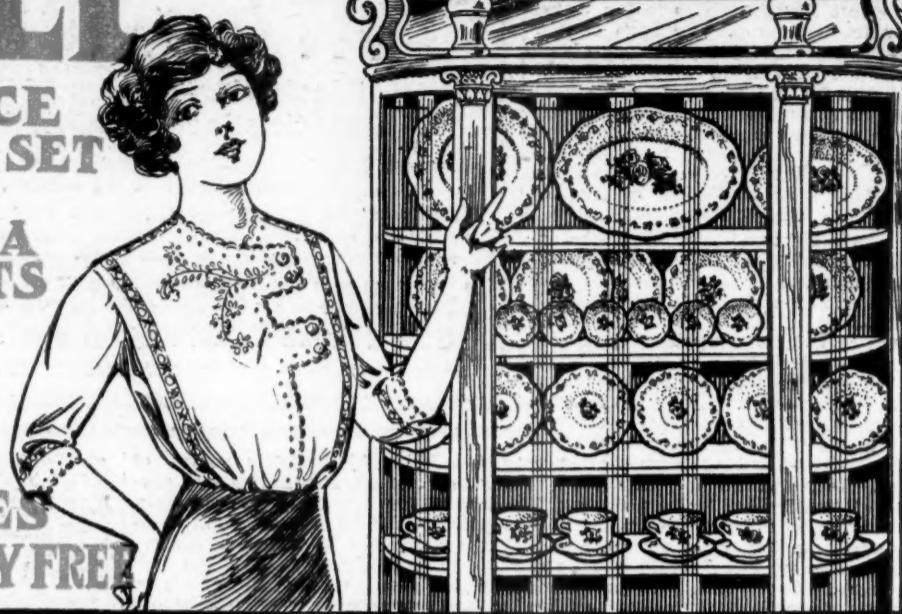
in the morning and evening in the grain troughs and then putting the hay in where the lambs can eat it through the day.

The silage is commonly fed in troughs 24 inches wide at the bottom and with three or four inch sides. These troughs can be made out of one inch lumber and are set upon legs made out of 2x4s "A" shaped so that they will stand properly. They are set about 15 to 18 inches from the ground. This trough will allow the sheep to eat from both sides and has the advantage of allowing the feeder to put the silage in without a great deal of waste. The hay can be fed on the ground or in racks, but racks are preferred as con-

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BUYING THE HORSE SOUND.

"What constitutes a warranty of soundness in a horse when sold by one man to another?" If common law is but an outcrop of common sense, the horse sold without a warranty does not exact from the seller any responsibility if a state of unsoundness should afterwards appear, but if, for instance, I, in buying a horse, should ask the seller, "Is he perfectly sound and free from fault in every particular?" and if the answer was in the affirmative, without any qualification whatever, and should there be no witness present to prove that such verbal warrant was given, I would be taking all the responsibility and could not hold the seller for any defect either in the body or character of the animal should it afterwards appear.

The safest place to buy a horse is at the regular horse markets conducted by responsible people. At these markets the seller, who is represented by the auctioneer, makes a clear statement in the presence of many witnesses as to what is being offered for sale. Unless there are witnesses to the action, or unless a written guarantee is given, the buyer cannot hold the seller to make good for any defect that may afterwards be found in the horse because "in open court one man's word is as good as another's." This is reason.

The only safe plan to follow in buying a horse is to be fortified by evidence of the description which has been given by the seller of the animal that has been sold.

In England, and no doubt in other countries abroad, the question that constitutes soundness in horses is taken as a very important one. Here, for an illustration, is a resume on the subject by Prof. Lupton, author of "Horses Sound and Unsound," he says:

"The sale and exchange of property can be effected without any kind of warranty, but in many instances the seller transfers his goods to the buyer with an assurance that they are what he represents them to be. This opinion may be asserted verbally or written, on a memorandum expressing the exact terms of the assurance. "Every affirmation at the time of sale of personal chattels is a warranty, provided it appears to have been so intended." And should such prove on substantial authority to be untrue, the vendor is liable for breach of warranty.

It was thought years ago—and even now there are people who are of the opinion—that the fact of giving a fair price for a horse—that is, "such as from the appearance and fact, if it were free from blemish and vice" constitutes a warranty of soundness even in absence of any oral or documentary evidence.

A dealer also may warrant a horse for a limited period and allow it to go on trial (as it is called) to the intending buyer for a week, who at the expiration of the specified time can retain or return it at his own discretion; in such cases sufficient time is allowed for testing such animal's qualifications and soundness. When dealing in conducted on such principles it cannot fail to be satisfactory both to vendor and vendee, as nothing in such arrangements is likely to lead to litigation; at the same time, by this mutual contract the borrower, i. e., when no charge is made for the horse's temporary use, or hirer, who agrees to pay a stipulated price for the use of the horse during the period arranged for testing its qualifications, "gains a temporary property in the thing hired, accompanied with an implied condition to use it with moderation, and not abuse it."

In the same work there appears this statement which relates to dealing in horses on Lord's Day. "Never enter into a contract to purchase a horse on a Sunday; at any rate, do not complete it until the following day. If you buy of a dealer on this day it is not binding, as the vendor is exercising his ordinary calling as a seller of horses." This law is, in effect, "that no tradesman shall exercise his calling on the Lord's Day."

Corks won't stick in musilage bottles if they are greased with lard when first taken out.